

PREFACE

This is the first volume of Introduction to Economics, dealing with the theories of production, consumption, exchange and distribution. A second volume, to be brought out shortly, will treat the theories and problems connected with Currency, Banking, Foreign Exchange and Public Finance. The two together are intended to cover the courses in theory prescribed by the various Indian Universities for their degree examinations.

Some authors offer their books with apologies as a matter of convention. I have to do this for a more weighty reason. A number of printing mistakes have crept in and there is some room left for improvement in the matter itself. This is particularly the case with the first few chapters. But the reader, whose patience is not exhausted by these deficiencies, will find in these pages, as he proceeds, something that may prove really helpful in the grasp of the basic principles of economic theory.

Apart from presenting matter and argument in as simple and straight a manner as the author could command, the book treats a number of topics, such as those of costs of production, monopoly, international trade and problems of labour, somewhat more exhaustively than is usual in ordinary text-books. Some new ground has been covered in examining the theoretical implications of the wartime phenomena of price control, rationing and hoarding. Indian economic conditions have been presented extensively to illustrate the working of various laws and theories.

A number of recent developments in economic theory—price under imperfect competition, relation between marginal revenue and marginal cost among others—have been incorporated in their proper places. In the main, however, the book attempts to present the structure of classical theory as amended and developed by Marshall and Taussig to whom as to other distinguished thinkers and writers of this school the author is greatly indebted both for drawing upon their ideas and quoting from their works. The book is offered with a strong hope that it will serve its purpose at least during the transition period, that is, until the present courses are entirely recast in conformity with the 'new economics' that appears to be rapidly emerging. The author, along with so many of the older teachers, however, feels that there is little ground for the fundamental principles of the classical theory being altogether submerged by this new rival.

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PART I

INTRODUCTION

CHAPTER I.

PRELIMINARY CONCEPTS

Economics.

Economics has been popularly defined as a study of man in relation to wealth, being concerned with the wealth-getting and wealth using activities of human beings. Before we can properly appreciate what economics is and what it is not we must know what 'wealth' itself denotes. Like every other branch of knowledge economics employs a number of terms which have a special meaning attached to them. Geometrically a point has position but no magnitude, a line has length but no breadth. Thus a two-inch broad line on a tennis court is not a line in the mathematical sense. Similarly, as we shall see, there are many things of great use to us and yet they are not wealth in the economic sense.

The term *wealth*, as used in economics, denotes all those things which possess value in exchange, that is, they can bring for their owners other things of equal value. Thus if we have a typewriter we can exchange it, say, for a sewing machine, or if we have a rupee we can purchase for it five seers of wheat. Typewriters, sewing machines, rupees, wheat and innumerable other things which possess exchange value are wealth. On the other hand things like air and street dust are not wealth.

Utility, Value and Price.

All things which are wealth in this sense possess certain other characteristics. They must satisfy a human want and possess what we call *utility*, which term simply denotes the power possessed by a thing to satisfy a man's want, as for example, water quenches one's thirst. Another term which is used in exactly the same sense as utility is *value in use*, as distinguished from *value in exchange*. Here it may be noted that economically even liquor has utility so long as there are any human beings wanting it even though it does not confer any benefit and is positively injurious to health and morals. Ethically it is a nuisance, economically it is wealth. Now unless a thing has utility it cannot have exchange value. Wells have value but

not cesspools. All things having value in exchange must have utility, but the reverse of this is not necessarily true, that is, those that possess utility may not have exchange value. Thus air and sunshine have great utility for us but they have no value in exchange. Value of a thing expressed in terms of money is called price. As values are invariably expressed in terms of money in modern communities a marked characteristic of wealth is the possession of money value. It would be a good exercise for a student to apply this test to the various things with which he comes into contact in his daily life and find out for himself whether they are wealth or not.

Anything which has utility may be called a *good*. But all goods are not wealth. Those possessing utility but no exchange value such as air and sunshine are called *free goods*, while those like houses and books which possess both utility and exchange value are called *economic goods*. It is only these latter that are wealth in the economic sense. Now free goods at one time or place may acquire value and become economic goods at another time or place. Thus sand in a river bed has no value but when transported to a brick kiln it becomes an economic good.

We have seen that exchange value is a very essential characteristic of economic goods or wealth, while utility is essential to give value to a good. But an economic good must not only have utility but also *scarcity* in relation to human needs. Things like air are so plentiful that everybody's needs for it are fully satisfied, but that is not the case with land, houses, books. Thus it is *utility combined with scarcity* or limitation of supply that gives value to a thing and makes it wealth. Scarcity itself may be due to *natural limitation* as in the case of surface of land or it may be due to effort needed to produce or make a thing as is the case with chairs, tables, houses and most other things which are wealth. Sometimes a thing may be plentiful such as timber in a big forest but government may create scarcity by 'reserving' or enclosing it and restricting the people from cutting trees and removing timber or other forest produce. This is an example of *artificial scarcity*, which, however, is justified in the larger interests of the people themselves.

Along with utility and scarcity there are a few other characteristics which give exchange value to goods called wealth. Thus they

must be capable of being *possessed* or '*appropriated*' No one can possess air or any part of sea water, but a piece of land or a chair can be owned exclusively by a person. Again they must be transferable that is, their ownership should be capable of being transferred from one person to another, as otherwise they cannot have exchange value. A book can be physically transferred from one man's bookshelf to another a house cannot be moved in this way but its ownership can be so transferred by a deed or document of transfer or even orally. This transferability is possessed by most *material goods* such as books chairs, houses, motor cars and by certain *non material goods* such as the goodwill of a business and services rendered by one person to another. e. g. the delivery of one's letter to the addressee by a messenger. But *internal personal goods* such as skill, intelligence, and good health possessed by a person cannot be transferred and cannot therefore have exchange value or be wealth. Yet *the services* which such a person can render to others through the use of his health and skill are transferable, possess exchange value and are wealth in the full sense of the term.

Representative goods—Factories and houses, motor cars and furniture are goods share certificates and mortgage deeds are representative goods, which represent *title* to goods. These titles may be embodied in paper documents or they may be represented by debts contracted orally or by entries made in books. However, representative goods are wealth, possessing exchange value But in any computation of the wealth of a community, they ought to be excluded, the real property which they represent being included.

Any amount of stock certificates, mortgage deeds and money, especially paper money, do not make a nation rich unless they represent titles to the property of other nations. Metallic money does add to the wealth of a community in so far as it can be used in arts or exchanged for the wealth of other communities.

Personal wealth of an individual consists of all the goods or titles to goods which he possesses and which have exchange value. Thus houses, money, furniture and shares in companies and businesses along with debts owed to him by others whether evidenced by a promissory note or other document or not, constitute his or her personal wealth. But in computing a man's personal wealth we must deduct debts owed by him to others.

National wealth consists of the wealth of all the individuals composing a nation plus all the social wealth or wealth owned collectively by the nation such as municipal parks, public libraries, state owned businesses and institutions like Railways, schools and council chambers. Some people also include in national wealth free goods like rivers and climate as well as efficient systems of administration, banking and national characteristics like industry and skill.

All the goods that constitute wealth may be either *consumption goods* or goods which are meant for direct consumption such as food, clothing and furniture, or they are *production goods*, which help us in producing consumption goods, e g, machinery and cultivable land. This classification is based on the use to which a particular thing is put or intended to be put. A table in our study room is a consumption good but in our business office it is a production good.

Production goods are further divided into *land* or free gifts of nature and *capital*, which includes goods made by man and employed in production such as machines and buildings.

Income, Wealth and Capital—The amount of wealth-material and non-material which accrues to a person *in a given period*—year or month—after deducting expenses incurred directly in earning it and replacing capital destroyed in producing it, constitutes his *income* while his *wealth* denotes the total amount of goods—material and non-material—possessed by him *at a given moment of time*. The term *capital* denotes that part of his wealth which helps him in earning his income.

CHAPTER 2

SUBJECT-MATTER AND SCOPE.

Definition.

Economics is a shortened name for political economy, which term has been derived from greek words meaning 'law of household management as applied to communities'. Economics has been defined as the study of man in relation to wealth from the social stand point. According to Dr. Marshall Economics is a study of man's actions in the ordinary business of life, it inquires how he gets his income and how he uses it. Economics is thus concerned with man's material wants and the way in which he satisfies them.

Economics deals with the activities of *men living in society.* It considers man as a social being, his own actions affecting as well as being affected by actions of his fellow beings. Economics ought therefore to be distinguished from *Individual or isolated economy* denoting the study of the economic problems of an isolated individual like Robinson Crusoe. It should also be distinguished from Domestic Economy or Municipal Economics which deal respectively with the material problems of a family and municipality. Economics while fully considering the causes and effects of individual action, emphasises the social aspect of the problems it deals with. Some writers like Carver have suggested the use of the term national or social Economics in place of Economics. But the latter term is now more popular and better to use if only for the sake of brevity.

Subject matter and scope.

The subject matter of economics is man and wealth. It comprises an inquiry into the causes, the nature and the results of men's efforts devoted to the satisfaction of their material wants—wants that are capable of being satisfied with things which we call wealth. It goes further and includes a study of whether and how man's efforts can be so increased, reduced or modified as to yield maximum of satisfaction with minimum of effort. In short, it deals with all the phases

of production, consumption, exchange and distribution of wealth by men living in society. The study of economics answers such questions as why and how men produce wealth, what they do with it, and in what way these activities of theirs can be so directed as to yield the best result.

Evidently the scope of economics is limited to those efforts of man which pertain to wealth, that is, goods and services which possess exchange or money value. In a modern community money provides the test by which we can separate economic from non-economic things. The services of wives, friends and social workers rendered without pecuniary rewards, are beyond the scope of economics, although they increase man's welfare. But while confining itself to things having a money value, economic study does not altogether exclude the consideration of religious, ethical and political motives which affect man's economic activities. Modern economics deals *not* with the 'economic man', guided by self-interest alone, bereft of all feelings except the selfish pursuit of wealth (—an abstract and imaginary concept of old economists like Senior, who narrowed the scope of economics and wanted to make it an abstract science so as to give it scientific precision—) but with *the real man* of the world as he is, guided in his acquisition and expenditure of wealth by motives other than those of self-interest as well as of self interest, though of course the latter predominates in most cases.

The study of economics starts with many of its basic principles taken from other branches of knowledge like Psychology and Physical and Biological sciences. Thus economic laws of Diminishing Utility and Diminishing Returns have been directly derived from Psychological and Physical bases respectively. It is beyond the scope of economics to inquire why the second unit of a commodity gives less satisfaction to us than the first or why a given area of land is subject to diminishing returns. And it cannot be denied that any material change in these basic principles will involve a reconstruction of economic theories based on them. Thus if scientific progress could make possible an unlimited yield from a limited area of land, the law of diminishing returns and the theories of rent and population based upon it, will have to undergo material alteration.

Further, modern economics lays emphasis on the *human aspect* of its problems. We cannot ignore the welfare of man in the study

of questions pertaining to wealth, for we cannot conceive of wealth irrespective of man, the satisfaction of whose wants and promotion of whose welfare is the end of all wealth—wealth itself being only a means to that end. The popular definition of economics as "the study of man in relation to wealth" rightly puts man first and wealth afterwards. Earlier economists put undue emphasis on wealth, throwing man in the background. It was this tendency which led writers like Carlyle and Ruskin to dub economics as the "dismal science" and "the Gospel of Mammon". This emphasis on human welfare as the goal of wealth has also drawn attention to the great evils of the industrial system, which aims at increased output of wealth through over working of the labourers.

Recently Robbins has criticized Marshall's description of economics as being concerned with the satisfaction of man's 'material' wants. But if in the term material wants we include also 'immaterial' wants as Prof. Marshall did intend this criticism loses its force. Robbins has then tried to widen the scope of economics by defining it as "the distribution of scarce means between alternative ends". But this definition does not introduce any new thing except that it includes in economic studies all things where economy is necessary. The popular definition recognises that resources in land, labour and capital available in a country are limited or 'scarce' and they have to be utilized in the most economical manner, that is, in a way that secures the greatest possible output of wealth and well being. Robbins' definition would include not only the distribution of limited time at our disposal over different kinds of productive activity but also over work and play and perhaps over different kinds of games. In another direction, however, he has narrowed the scope of economics by limiting the use of scarce resources for given ends, so that his definition bars the discussion by economists of social ends.

Economics—science as well as art.

A science has been defined as "a systematised body of knowledge which enunciates laws about a particular class of phenomena." An art is also a systematised body of knowledge having a practical end in view. Thus astronomy dealing with the position and movement of heavenly bodies is a science, while navigation which takes advantage of astronomical laws in the steering of ships is an art. The

function of science is to observe, classify and explain facts—to trace effects of causes and seek causes of effects. The function of an art is to apply knowledge of facts to practical purposes.

Judged in the light of these definitions economics is both science and art. According to Prof. Chapman Economics is a *positive science* dealing with economic facts as they are, a *normative science* inquiring into facts as they ought to be, and an art finding out the ways and means by which the desired end can be reached. Thus economic studies are very comprehensive in their scope. When dealing with the problems like inequality in the distribution of wealth, modern economists not only attempt to investigate facts about inequality and its causes, but also go into the ethics of inequality and try to discover means by which it can be extinguished or minimised.

Relation to other Sciences

Economics and sociology. Men living in society have many kinds of relations with one another—social or ethical, political, legal, and economic. Each of these is studied separately and forms the subject matter of a separate branch of knowledge. Thus economics is one of the many social sciences and forms part of the general study of man in all his varied relationships termed sociology or the general social science.

But while it is convenient to break up the study in so many parts, it is difficult to study man's actions in any one sphere entirely ignoring the others. Man's economic motives and activities influence, and are influenced by, his political, legal and ethical ideas and institutions. In his pursuit of wealth he is very materially affected by the legal and political institutions and by public opinion and custom in regard to moral conduct. Thus in initiating any economic policy the state has to consider its effects on all the spheres of social life. All social sciences are thus closely related to one another, though for the sake of convenience they are studied separately and generally by different sets of students.

Economics and Psychology. Psychology or mental science deals with man's instincts, impulses and motives, which lead him to

an innumerable variety of actions, and economics is closely concerned with those motives and feelings of man which affect his economic activities. Many of the economic laws and theories are thus directly or indirectly based on psychological principles, e. g. the laws of diminishing utility and least sacrifice.

Economics and Physical and Biological sciences.

Man's economic activity and well-being are considerably affected by the researches and investigations carried on in Physical and biological sciences. Thus innumerable inventions and discoveries of Physicists and Chemists have enormously increased man's mastery over nature and his capacity to produce wealth, while botanical researches are continually helping him to obtain more and better food from the soil. Some of the economic laws themselves are based on the conclusions drawn from these sciences, e. g. the laws of diminishing returns from land and heredity, which have helped in constructing and perfecting the theory of population.

Economics and Geography

Geography deals with man's environment as affecting his activity and well-being, and so far as geographical surroundings influence man's economic activities—and they do so in a large measure—a student of economics has to study geography. In fact, a detailed study of the distribution of natural resources, climate and population of a region is necessary to understand its economy.

Economics and History.

History, especially economic history, helps us to understand, formulate and develop economic theory, while a considerable part of past history has been the outcome of economic causes. Numerous invasions and systems of revenue and government are traceable to contemporary economic conditions. Thus history has to take account of economic organisation, and a study of economics has to take the help of the facts of history.

Economics and Mathematics and Statistics.

The study of economics is very greatly facilitated by the use of mathematical and statistical methods. Mathematical method helps to clarify and give precision to economic laws like that of supply and

demand, while statistical investigations have helped not only to verify economic theories but also to formulate new theories like Engel's Law, and have enriched economic knowledge to a considerable extent.

Divisions into which economic science is divided.

Economics has been divided into four distinct divisions, which deal separately with the different phases of human activities in connection with getting a living. These economic activities are usually divided into production, consumption, exchange and distribution.

Production deals with the ways in which things we call wealth come into being. In this branch of economics we study the requisites of wealth production and the causes which retard or promote such production.

Consumption deals with the use made of wealth by human beings. In this branch we study the nature of human wants, the influence which they exert on man's activities connected with production, exchange and distribution of wealth, and the principles which govern or should govern expenditure of income in money or kind.

Exchange as a division of economics is concerned with the study of the factors that govern the passage of wealth produced from producers to consumers, such as the essentials of a market, the process of valuation of goods and services and the mechanism of exchange.

Distribution deals with the methods by which wealth produced is shared by those who produce it and the factors that determine the shares of the different categories of producers.

These divisions or branches of economics are as closely related and interdependent as are the respective processes with which they respectively deal. It should be noted that all the four processes, production, consumption, exchange and distribution are going on simultaneously. Every hour or even minute of the day each of them is on. We feel want or desire to consume, this leads to productive activity on our part. In a very primitive society the things produced may be consumed directly by the producer. But in a modern society there is specialisation and group production which give rise to exchange and distribution. Goods produced by each set of persons are exchanged with those produced by many other sets of people, while those produced by a group are distributed among all the members of the group not

directly but in the form of money in which they are first turned through sale. Exchange is thus the bridge over which most of the goods produced pass.

Each of these processes affects and is affected by the others. Thus a good standard of consumption creates a greater demand for goods and increases efficiency in the production of wealth. A more efficient system of production increases wealth available for distribution while an increase in the share of wealth accruing to the citizens raises their standard of consumption and promotes productive efficiency.

Exchange on its part is a very essential link between the various processes. Increased production and consumption extend the scope of exchange, while a good system of exchange promotes division of labour and efficiency in production and variety in consumption.

Aim and Utility of economic studies.

The study of economics, like the study of any other branch of knowledge, has a two fold purpose. It satisfies man's curiosity and increases his knowledge about his actions in getting and spending wealth, and this knowledge develops his faculty to understand and capacity to do things. And secondly, it enables him to use his knowledge in furthering his own welfare as well as that of society at large. Thus the more important aim of economic study is the furthering of human welfare.

The study of economics helps us to know how wealth is produced and consumed and also how these processes can be so modified as to increase our economic welfare in particular and total welfare in general. Thus a proper study of the subject makes us better producers and better consumers. We become more efficient and therefore happier farmers, manufacturers, traders, bankers, statesmen and citizens. In short, we are enabled to maximise the fruit of our effort as well as the satisfaction that we derive from such fruit, that is, to apply our labour and use the product of such labour to the best advantage.

According to Dr. Marshall and other modern economists the central problem of economics is the alleviation of suffering caused by poverty or the lack of the means of satisfying our primary needs for food, clothing, shelter and reasonable comfort. The glaring poverty of the mass of population in this era of large-scale production has set

economists to seek the causes of poverty and to find means to alleviate it, for poverty is not only responsible for much of the existing wretchedness and misery but it is also the root cause of the continuance of poverty and misery in the world. "The curse of the poor is their poverty." Lack of means to satisfy wants makes men indolent and morally degraded, thus marring their present as well as their future. Hope, the nectar of life, is taken out of them, and despair over takes them. All ambition and desire for progress leaves them.

Wealth and Welfare ?

The aim of economic study is to find out the ways by which wealth can be increased and welfare of man promoted. Wealth satisfies human wants and an increase of wealth is expected to increase human welfare. This is, however not always the case. Man's wants are satisfied and his welfare promoted not only by economic goods which we call wealth but also by free goods and by a host of other things which are non economic in character such as political freedom, spiritual poise and amicable social relations. Thus when population increases or such legal monopolies as reservation of forests are created, more and more of free goods like land surface and water reservoirs get appropriated and become economic goods, which means an increase in wealth, that is, goods possessing money value. But this only means that many things which were enjoyed freely by all, are now obtainable by a few only and that also only with effort or sacrifice.

Similarly, an increase in wealth may be brought about by making man a better tool but a worse or more wretched man. The hours of work may be so lengthened or the intensity of labour so increased that in spite of more goods at the disposal of man, he gets less leisure than is necessary to make him happy. Some of the modern developments in the fields of production and consumption have done this to a considerable extent. The factory hand has become a more efficient producer, and this has placed in his hands more material goods—wine and things that yield sensual pleasures—but he has lost his independence, airy and health promoting surroundings, while the keenness of competition for the possession of more and more of material goods and the selfish pursuit of earthly pleasures, have dwarfed his moral and spiritual senses, his feelings of love and sympathy.

Again an increase in the total wealth of the community does not promote welfare if such increase is very unequally shared. A few

individuals in affluent circumstances are no source of happiness to the starving millions. However, these unwholesome features of the modern industrial system have received the attention of administrators and social reformers and their injurious effects have been greatly minimised by education, cooperation, and legislation in favour of the poorer classes of society.

The sum and substance of above arguments is that increase in national wealth or national dividend does not necessarily imply an increase in social welfare. It may in some cases actually result in decrease of welfare. Before examining the situations where contrary results occur, we may at the out set clarify the foundation stone on which this entire structure rests. To the westerners, who believe welfare to arise solely from material consumption, it may seem illogical to argue that increase in national wealth may result in decrease of welfare. But to the oriental mind who knows fully well that welfare or happiness is not to be associated with material consumption alone, there is no logical inconsistency in the startling notion that increase in national dividend or national wealth may in certain situations result in decrease of welfare or at least may not result in its increase.

In order to appreciate fully this point of view, we have to clarify our notion of welfare. Pigou has classified welfare as economic and non economic, the former that which can be directly or indirectly brought in relation to the measuring rod of money, the latter that which cannot be. The total welfare is the aggregate of both and this aggregate really implies the total happiness. If economic welfare is increased by increase in national wealth, it does not imply that the aggregate is increased. The aggregate may not rise, if the increase in the one component is balanced by the decrease in the other. It is only if both the components are moving in the same direction that we can say that the aggregate is maximum when the economic welfare is maximum. Thus, our first assumption is that economic welfare is the closest approximation to total welfare. The second assumption is that national wealth and national dividend are the closest approximation to economic welfare. But we must not make use of these assumptions without the knowledge of their limitations.

Increase in national dividend and national wealth will not mean income in welfare if the portion accruing to the poor is diminished.

Bad distribution of wealth to the detriment of poor will mean more loss of welfare by the poor than its gain by the rich. The aggregate social welfare will diminish.

Further, to judge whether increase in the one will lead to increase in the other, we have to examine how the increase in national wealth is brought about. If it is brought out through the use of new inventions, through better utilization of time by avoiding the strikes and lockouts and labour disputes, through the adoption of better systems of wage payments and lastly, through better remunerations, then naturally increase in wealth will mean increase in welfare. But if additional wealth is due to forced labour, due to more work at the cost of the necessary leisure, then obviously, the increase in wealth may not imply increase in welfare.

And after all, we must not ignore the fact that material consumption is not the sole determinant of welfare. Much depends upon the habits, feelings, expectations and mental attitudes of the consumers. The villager today, if he is transported to a new world with cars and palaces, will not feel better off, after he has once become accustomed to the new standard of living. In the transitional stage he may feel better off, but ultimately he will become accustomed to the new level, his psychology will change and it is rather difficult to say that even then he will feel happier. Thus increase in national wealth does not necessarily mean increase in welfare.

CHAPTER III

ECONOMIC LAWS & METHODS OF STUDY

Economic Laws.

A *scientific law* is something quite different from a criminal law, which prescribes punishment for a crime. A scientific law embodies a conclusion drawn from the observation, classification and explanation of facts. Thus Newton observed an apple falling from the tree, and he must also have observed that other things also fall to the ground unless some force holds them up. And he arrived at the conclusion that the earth attracts all bodies. To this conclusion is given the name of the famous Law of Gravitation. And from this law so many of the physical phenomena are explained. Now similarly there are *economic laws*—laws derived from the observation of economic activities of man. An example of this is what we call the Law of Demand, which states that "With a rise in the price of a commodity, demand for it falls, and with a fall in price, demand increases."

Inexactness of economic laws.

Now it is generally held that economic laws are not "*natural*" laws, that is, they are not exact and invariable like the actions of Nature. And it is largely true. The laws of sciences like Astronomy, physics and chemistry, deal with matter or material bodies, which are devoid of life such as we find in plants and animals. All matter being without life, its properties and movements are regular, uniform and constant, and they are capable of accurate measurement and description which will hold good at all times and places. Water, wherever and whenever it be, will always flow downwards due to earth's gravitation. It possesses neither the will nor the power of its own such as possessed by man, to defy the force of gravitation. Such are also the movements of the earth and the planets, and naturally laws dealing with matter and material bodies are universally true for all places and for all times.

But such cannot be the case with laws dealing with things possessed of life, which is ever changing. Plants and animals show varieties uncommon in matter. Some plants will attain a larger height than others, even when provided with the same kind of soil and climate. Some swallows will prefer to lay their eggs on a tree, others may choose a hole in the wall of a dilapidated house, but water, as we have seen, is incapable of any such choices or preferences in its movements. So we have to recognise that all biological laws—the laws dealing with *living* things, are less exact and less universal than the laws of physical sciences. And it is a matter of common knowledge that as we pass from lower to higher forms of life, the variety shown in regard to time as well as place increases. Plants possess life but no will or power to move, and so they show less variety than animals who possess will as well as power to move about. Evidently, botanical laws are more exact than those of zoology. And as we come to the highest form of life in man, we find him possessed not only of instincts and freedom of movement like those of animals, but also reason and the power to act or to refuse to act in conformity with his reasoning and natural impulses. While other forms of life try to adapt themselves to their environment, man can and does very largely modify and adapt his environment to his own likings. Then again social life is highly evolutionary, and within a space of a few hundred years, man has changed his wandering life of a hunter into a highly settled life, involving a complete transformation of social life. And so, laws dealing with such a being can not be rigid and universal in their application irrespective of time and place.

But should all this be taken to mean that human activities are totally devoid of uniformity? Certainly not. In spite of the great gift of free will possessed by man, his actions are to a very great degree subject to natural instincts and impulses more or less common to all humanity. The largest number of people of all nations and at all times has felt the necessity of and believed in a divine power. Almost all men try to preserve themselves, love for the offspring and sympathy for neighbours are to some degree at least common to all. Man is at the same time a rational animal, and in the overwhelming majority of cases, his reason always tends to restrict his free will to reasonable action and as this reason is common to all mankind, man's actions

are also common to that extent, though exceptions there will always be found to exist. And so, social sciences, dealing with man's social activities in the spheres of religion, ethics and politics, have found uniformities which are largely true for all mankind and even for all time. The laws based upon these uniformities therefore hold good to a great degree.

Especially and to the largest degree is this true in respect of man's economic activities. The instincts of self-preservation and the desire to satisfy material wants are so strong and common that economic motives and activities are very similar and common among all men and this community of motive and action has been further strengthened through money, which has provided a common measure of economic values, just as the exactness of physical sciences has been rendered possible through measures of length, weight and volume. Thus economic activities and choices are more common and measurable than religious or political actions and preferences. It is a matter of common observation that an Arab will as persistently try to pay the least possible price for an umbrella or a pound of butter as an American, though there may be found a vast difference in their modes of worship, ethical standards, social institutions and forms of Government. The laws of economic science are thus more exact and uniform than those of other social sciences like ethics or politics.

Moreover, a considerable part of man's economic activity is governed by natural factors, over which man has no control. However much we may try, we cannot raise more than a limited quantity of wheat from the same acre of land, and this limitation is a universally true law of the economic science called the law of diminishing returns. Similarly all men are subject to fatigue after a few hours incessant work, and their will not to get tired is incapable of being acted upon.

Economic laws are largely true qualitatively; they lack quantitative precision and are therefore expressed as tendencies. We can say that a rise in the price of a commodity will tend to diminish the demand for it but we cannot say by how much. This lack of quantitative exactness is also to some extent due to the impossibility of isolating causes and effects and experimenting in connection with social actions. For instance, a Chemist can take two or more chemi-

cals in their pure state and watch the results of their combination in his laboratory, unaffected by extraneous causes, but an economist can neither raise prices nor register its effects on the demand of a given city or country. And even if it were possible, his conclusion may be vitiated by such causes as increase of numbers or change in tastes over which he has no control and on account of which he cannot find out with precision the effect on the demand for a commodity due solely to a given rise in its price.

It may be noted that Economic laws are *natural* laws in the sense that they are based on man's nature and his instincts. But if by natural law we mean laws which are incapable of variations like the laws of gravitation, Economic laws are not natural.

The Methods.

In all scientific investigations and formulation of laws two methods are employed. They are deductive and inductive

The Deductive Method. Consists in deducing particulars facts or truths from a general truth or principle. For instance, from the fact that land is subject to diminishing returns, economists have deduced the laws of rent and population. This method was very popular with older economists, who based all their theories on the following principles or postulates

- (1) the law of the least sacrifice based on self interest.
- (2) the law of diminishing returns from land
- (3) freedom of competition.
- (4) the law of population.

The Inductive Method follows a different course, Here the scientist observes particular instances and after their classification and analysis deduces laws or general tendencies. For instance, we collect facts in regard to incomes of a number of individuals and the sizes of their families, From these we may deduce the relation, if any, that exists between the size of income and the size of the family, e. g. that wealthier persons have on an overage smaller number of children born to them. No doubt we may also reach a similar conclusion by the deductive method by a consideration of the effect which the size of income produces on man's sex or paternal instincts.

Thus while in deduction we reason from the general to the particular in induction we reason from the particular to the general. The use of the two methods may be further illustrated as follows : Excessive heat on a summer afternoon is usually followed by a high wind or thunder storm. This truth or generalisation is based on observation or experience of common people and the method here is inductive. But the same generalisation may be based on the deductive method in this way. Excessive heat or high temperature in a region expands air and makes it lighter and its pressure lower. Lower temperature and higher pressure in adjoining regions causes flow of air from the latter to the former areas.

The drawing of conclusions from abstract truths or principles has led to the deductive method being called the abstract method, and the protagonists of the inductive method have also criticised it as dogmatic, especially as in their view some economists have drawn wrong conclusions or have based their deductions on wrong postulates. The inductive method has been called the concrete method because it bases its conclusions on concrete facts.

It is now universally admitted that both methods are useful and even necessary in economic as well as all scientific investigations. The deductive method is quite useful in drawing conclusions from known principles and truths, and inductive method is useful in verifying those conclusions as well as in drawing new conclusions from the observation of facts. Deduction helps in explaining and co ordinating conclusions arrived through induction and in drawing further conclusions and forecasts about the future tendencies or happenings.

Some Assumptions of Economics.

In all economic discussions and exposition of economic laws and theories certain things are assumed without being explicitly expressed in words. These are (1) *an ordered society* possessing a government which ensures security of person and property and which enforces contracts (2) *freedom of competition and enterprise*, enabling all men freely to engage in any kind of occupation which is not closed to the public by law on grounds of morality or public policy, (3) *Right of private property and inheritance*—institutions which ensure the enjoyment of the fruits of one's labour and the certainty of being able to

pass on those fruits to heirs and successors. (4) a money economy—where goods are sold and purchased not directly but generally through the medium of money and (5) a readiness on the part of individuals to act according to their best interests.

In so far as these conditions are wholly or partially non-existent economic theories are falsified. Absence of competition, inability or unwillingness to seek the cheapest market through ignorance, custom, or sentiment are the *forces of economic friction* which counteract economic forces like free competition and enterprise and prevent the normal working out of economic laws e.g. the full play of the law of supply and demand is checked by monopolistic combinations, state controls, and ignorance of the conditions of demand and supply by persons entering into competition as buyers and sellers.

Recent trend in both economic thought and sentiment is towards state control and planning of economic life. While the old recognized school of economics bemoaned the economic frictions as preventing the operation of economic laws, the more modern thinkers are increasingly tending towards controls and state interference in the economic field at every step. Thus if the state takes over all or most production, distribution and exchange of wealth in its own hands or even if it only exercises rigid control over these activities in the hands of private agencies, most of our economic laws and theories will become not only out of date but entirely meaningless. That will lead to the rise of a wholly new body of economic principles applicable to state or planned economy.

The theories as expounded in this and most other text books and the assumptions enumerated above are applicable only to what is called capitalist economy, which has freedom of enterprise and competition limited by law only to the extent of prevention of fraud and spoliation.

CHAPTER 4

THE DEVELOPMENT OF ECONOMIC LIFE,

Just as we have political history, so also we have economic history of mankind, which deals with the development of man's economic life through numerous stages leading up to the modern age of giant steamships, electric installations, railways, factories, wireless telegraphy and broadcasting, which among others, denote the changes that have come about in the processes of production, consumption, exchange as well as distribution. The various stages, though by no means clear cut, may be grouped under the following heads: It must, however, be noticed that economic progress, like the progress of man in other spheres of life, is marked by a progressive extension of control over nature, and the various economic stages show the methods of production or means of finding subsistence and shelter, the conditions of property, modes of living, family life, social and political life, and the methods of exchanging goods.

1. The Hunting Stage. *Taking things as they already exist.*

This is the name given to the primitive state of man, where he entirely depended upon Nature for his food, clothing and shelter. He hunted animals or caught fish whose flesh he ate, used their skins for covering his body when necessary and for making tents. Such men may still be found in the aborigines of Andamans or Australia. In order to find his prey or even wild fruit, man had to live in the jungles, where water could be found easily near river banks, and where grasses were abundant to feed his prey. As no one portion of a forest could yield a continued supply of wild animals, life had to be nomadic or wandering, in which possessions or property were limited to the barest necessities, such as weapons made of sharpened bones of beasts of prey. Means of subsistence being precarious, family attachment was almost non-existent, and the population was sparse. Socially there was no family life or government and this resulted in constant warfare—

2. Pastoral Stage. *Taming of the animals.*

Later on men learned to find subsistence not by killing but by taming the animals. This ensured a more certain supply of food and clothing, family attachment developed and population grew, especially as the tending of herds required several persons to look after them. Of course, life was still nomadic, as the cattle or sheep had to be moved from place to place to provide them with pasture. Personal possessions however increased, as they could be easily transported on the backs of the animals. Life, on the whole, became comparatively more peaceful, and the division of labour among the husband, wife and the children sprang up. Nomadic life, however, did not promote or require an ordered government or society.

3. The Agricultural Stage. *Taking to the soil.*

By and by man learned that soil could yield a continued supply of means of subsistence by cultivation, which provided a still more certain source of food. The cultivation of soil necessitated settled life, which together with adequate supplies of food led to an increase in population. In this stage, the institution of property became very important, as not only did the proprietorship over the cultivated land become necessary but the excess produce of the soil had also to be preserved for future. To protect property some kind of protective organisation became necessary, and government was evolved. The settled and organised life led to peace and prosperity, which in their turn encouraged the pursuit of arts, science and literature. Villages consisting of several families living in separate houses or huts, grew up.

4. The Artisan or Handicraft Stage. *Making of things by tools.*

Agricultural life gave birth to arts or handicrafts. Tillage required implements and tools, and settled life encouraged the use of clothing and houses. Thus, there sprung up blacksmiths, potters, weavers and masons. There also appeared the division of labour and exchange. The cultivators and artisans supplied each others' needs. First, this was done by direct exchange or barter. The artisans supplied their wares ploughs or clothes—and such classes as barbers and washermen their services in

exchange for corn of the farmers. Later on, the use of money as a medium of exchange appeared. Towns grew up, which generally attracted artisans, while the farmers lived in villages, and exchange between the town and its countryside developed.

5. The Industrial and Commercial Stage. *Making of things by Machine.*

With the extension of man's scientific knowledge and his mastery over natural forces such as water, wind and electricity, there appeared machines and engines, which helped to produce as well as carry goods in large quantities and at a high speed. This almost revolutionised the processes of production as well as exchange. The chief features of this stage are the complicated organisations, the growth of towns, extension of the division of labour and exchange, and the development of credit and banking. This stage is also termed the age of the machine to distinguish it from the artisan stage, which is called the age of the tool. With the growth of international trade, has developed also what we call geographical or international division of labour.

If we trace the evolution of industrial organisation during these different stages of economic development, we find that in the beginning production was organised on the basis of *family* as unit. The household was the centre of economic activities. Wants were few and they were satisfied by the members of the family working in co-operation under the guidance of the head of the family.

In the second stage there came into existence what is called the *domestic system* of production. Under this system people still worked in their homes, but not for themselves as under the family system but for a merchant employer, who used to export goods outside. Thus the middleman came into prominence. Later on there appeared guilds which began to regulate as well as promote the industrial activity.

With the introduction and use of machinery after the Industrial Revolution, the domestic as well as guild system were thrown into the background and the *factory system* of production developed, which now, predominates so that factory system has become a rule rather than an exception in all the important industries of the modern countries of the world.

PART II

INTRODUCTION

goods made up of the ore, changes its time. All these agencies add utility to the ore by their operations and are producers in the real sense of the word.

All productive activities may be classified as follows

Industrial Activities :

(1) **Extractive industries**—engaged in the extraction of raw materials from nature e. g. farming, mining, fishing, forestry, fur-gathering.

(2) **Manufacture**, consisting in treating the raw materials and turning them into finished goods e. g. spinning, weaving, soap making, etc.

Commercial Activities .

(3) **Transport services**—engaged in moving goods from place to place, e. g. railways and shipping.

(4) **Mercantile services**—consisting in purchasing, sorting, storing and selling of goods—work done by merchants and middlemen including brokers and factors.

Financial Activities :

(5) **Banking services**—engaged in providing capital and credit to industrialists and traders.

Professional Services.

(5) **Public services**—of soldiers, judges and policemen.

(7) **Private services**—of lawyers, doctors and domestic servants.

The proportion of population of a country engaged in different classes of these industries gives us an indication of the stage of its economic development. If a much greater proportion of the people of a country is engaged in extractive industries, as in India, it can be safely concluded that the country is in her agricultural stage of economic development.

The classification is also useful in preparing an economic plan for a country. As a rule in a well-balanced-planned economy the entire population of a country must be engaged in the different industries in some correct proportion to be determined by her natural resources and the economic requirements of the people inhabiting it. It is only then that the maximum material welfare can be secured for

the people. The distribution of population in productive activities in any proportion other than the 'correct' one is sure to be uneconomical.

The Incentive and scope for productive activities.

The necessity of satisfying economic wants both present and future is the only incentive for the people to engage themselves in productive activities. Economically considered a man is no more than a bundle of economic wants moving in flesh and bones. He works simply because in no other way can he satisfy them. Wants provide the motor force of productive activities. Scope of such activities is conditioned by the natural resources, quantity and quality of the people and their scientific knowledge and inventive genius. If a country is rich in natural resources, a large number of industries can be started, otherwise the scope for economic activities in localities like deserts and hilly tracts is very much limited. Similarly, hardworking, intelligent energetic and virile people can extend the scope of their activities by utilising the natural resources of their country to the fullest extent. Scientific inventions by enabling men to control natural forces and political stability by ensuring peace and security to life and property can considerably extend the scope for productive activities.

The Agents of Production :

All production involves the use of the services of two primary factors—*Nature and man*. The former provides the materials and the latter provides labour or effort needed to make things or render services. These two are thus the primary agents or factors of production, in as much as production would be impossible without them, and also because the other two factors, mentioned later, are derived from them. These two factors are termed Land and Labour.

Besides land and labour, there is a large number of things, which are not land but are great aids to production, such as machines, tools and buildings that help production. We call all such things by the name of *capital*. The help of capital is so important these days that the whole industrial system is called capitalistic. Then there is a fourth factor, *Organisation*, whose function is to bring together the other factors of production and to undertake the risk incidental to all enterprise. Capital and organisation are called secondary factors of production because capital represents purely the fruit of past labour

upon land, while organisation is only a special kind of labour. This last factor has assumed importance with the growth of large scale production, for it is the ability and efficiency of the organiser upon which depends the success of a big factory or business. It is not necessary that all these factors should be provided by different parties. It may be, as is usual in small businesses that the same man is landlord, labourer, capitalist and organiser.

All these factors of production are important for production of wealth, though their importance has varied from time to time according to the particular stage of economic development. The importance of land, for example, is very great in hunting, pastoral and agricultural stages. Capital and Organisation play little part in the first two stages; in the last, however, their importance increases. In the industrial stage—specially where large scale production becomes the order of the day—capital and organisation begin to play an increasingly important part in the production of wealth.

Efficiency in production.

The term productive efficiency denotes the amount of output in relation to the quantities of the various factors of production engaged in production. Thus of the two factories employing equal amounts of land, labour and capital the one that shows greater output in a given period is more efficient. This efficiency of a factory or of a country is dependent upon the quantity and quality of natural resources, population, capital and organizing ability.

The concept of efficiency is however of importance from the point of view of human welfare. Thus the amount of output of a nation or society as a whole is of a little significance. What is important is the production or output per head of the population.

Again efficiency in production should not denote only the amount of output per head but output in relation to inconvenience or sacrifice required to produce it, so that efficiency should increase material welfare. Thus efficiency in production has two aspects (1) Maximum output (2) Maximum material welfare. The modern capitalistic production has succeeded in the first but has failed in the second and that is why it is being decried and also threatened by socialistic tendencies,

which seek to bring about efficiency in production to maximise the material welfare of society.

The efficiency in production should be measured by the surplus satisfaction from production, which is equal to the total satisfaction from production minus the cost or sacrifice involved in achieving the production.

CHAPTER 6.

LAND AND THE LAWS OF RETURNS.

Land or Natural Gifts.

The term *land* in economics denotes not only the surface of land but also all other natural gifts like mines, natural forests, climate. But we should exclude such natural agents as are free goods and include only those which have been appropriated and possess exchange value that is, whose ownership or use is obtained on payment or yields a reward. Free natural gifts do help production but they are beyond the purview of economic studies.

I. Nature and Characteristics of land. Land is a free gift, having no cost of production. Its *total supply is limited* and cannot be increased, though the yield from land is capable of increase through human effort. Thirdly, land is *durable*—it does not wear out or get exhausted by use as is the case with commodities of daily use or capital goods, and is of varying degrees of productivity depending on its fertility and situation. Its services in production are of great importance. Land provides to labour *space* where it works, *materials* on which it works and the *forces of nature* which help it in producing wealth, as for example, steam, electricity, heat, wind power etc.

Productive efficiency of land is governed by its *fertility* depending on richness of *composition*, *climatic* conditions and surface features, and its situation in regard to market, for an unfavourable situation adversely affects the economic working of a piece of land by raising the cost of transportation to the market.

System of land-tenure implying rights and duties of the tillers of soil or users of other natural gifts also has its effect on the productivity of land. Thus if the system of land tenure confers permanent ownership of land on the farmers, they take considerable pains in

improving its productivity. If, on the other hand, the tenants are liable to ejection at will inducement to improvement is lost. Productive efficiency of land other than agricultural, however, is determined more by external factors than by the internal factor of fertility. The external factors include improvements brought about by the social and economic structure of society—specially means of transport and communications, banking and marketing facilities.

Efficiency of land in general implies its suitability for the use to which it is put. Land is required, for example, for agriculture, for constructing factories, for educational and recreational purposes. In each case different factors will determine its suitability according to the particular use to which the land is put to.

However these conditions of productivity of land are capable of being modified by man to suit his advantage. He can improve fertility as well as situation by manuring, levelling, irrigation, drainage, mixture and rotation of crops and by opening up of means of transport. Reform of land tenure can be and is undertaken by the state in the interests of productive efficiency.

The Law of Diminishing Returns from Land.

The capacity of land to yield wealth in cooperation with labour and capital is physically limited. When we apply a given amount of labour and capital—call it a dose—to a given acre of land we get a certain amount of produce. When we apply double the amount of labour and capital—2 doses—to the same acre, the produce is usually greater but less than double, that is, the additional dose yields less than proportionate return. This means that the return due to the application of the second dose is less than the return due to the first dose. When we apply three doses, return due to the third dose tends to be smaller than the return to the second dose, and this tendency continues. This form of cultivation or farming, where a large quantity of labour and capital is applied to a given piece of land, is called intensive *cultivation*. It is much in vogue in old countries like Belgium with dense populations.

Further if additional doses of labour and capital are applied not to the same plot but to new plots, the return again tends to diminish. Firstly because, it is natural on the part of a farmer

to cultivate the most fertile piece of land available, and the yield of such land due to a given amount of labour and capital is certain to be higher than the yield of another piece which is less fertile or more remote from his hut or market, remoteness from home increases the cost of farming and supervision, and greater distance from the market adds to the cost of transport. When the available amount of labour and capital is applied to a large area, cultivation is called *extensive*. Whether the one or the other form of cultivation is resorted to in a particular region at any time will depend on their comparative profitability.

In either case, the marginal return, that is, the return due to additional dose goes on decreasing. It should be borne in mind that it is the amount of output and not its value in money that decreases. This tendency has been called the Law of Diminishing Returns.

But it must be remembered that under certain circumstances returns may increase for a time instead of diminishing. When owing to insufficiency of labour and capital land does not get properly ploughed or watered, returns are very meagre, and a doubling or trebling of such small doses may yield increasing returns for some time. Again, improvement in the methods of cultivation such as scientific manuring and betterment of tools or field organisation, may increase the yield due to additional labour and capital applied on a farm in the shape of more labourers, manure or machinery. And as such exceptions to the law are not infrequent, it has to be stated and understood only as a tendency, although the tendency of returns to increase from either of the above two causes is temporary, yielding place to the opposite tendency of diminishing returns. Taking into consideration these points, the Law of Diminishing Returns may be stated in the words of Dr Marshall.

"An increase in the capital and labour applied in the cultivation of land causes *in general* a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture."

It is to be noted that total return does increase for a very long time. It is the marginal returns, or returns due to additional doses that tend to diminish with every increase in such doses. This fact may be made clearer by the following table and diagram ;

Returns obtained from the application of a number of doses of labour and capital on an acre of land under intensive cultivation

Year	No. of doses applied	Total Cost in rupees	Total return mds.	Marginal returns mds.	Cost per md. Rs.	Tendency of Returns	Tendency of cost,
1st	1	Rs. 10	5	5	2-0-0		
2nd	2	20	12	7	1-11-0	Increasing	Dimins
3rd	3	30	15	3	2-0-0	Dimins	Increasing
4th	4	40	17	2	2-6-0	"	"
5th	5	50	18	1	2-12-0	"	"

Similarly, returns due to additional doses would tend to decrease, as we have seen, even if these additional doses were applied to different plots less fertile or more remote from the market than the original plot.

Increasing cost.

The above table shows that as returns diminish, cost of production per maund increases. This is evidently true, and the law of diminishing returns is also termed the law of increasing cost. The two curves (a) and (b) represent the law of diminishing returns from the point of view of returns and costs respectively. In the curve (a) though the return for the second dose is higher than that for the first it is less due to the third dose, still less for the fourth and so on. In curve (b) cost per maund diminishes first but increases constantly thereafter as output increases through the application of more and more doses of labour and capital.

The Relation of price to Cultivation.

The extent to which cultivation is pushed intensively and extensively depends on the price of the produce. When prices rise it becomes profitable to apply more labour and capital on more fertile

pieces of land and some on less fertile pieces. And application of labour and capital tends to be pushed to the dose whose cost in money is equal to the money value of return due to it. Such dose is termed the *marginal dose* and the return due to it '*marginal return*'. All previous doses leave a surplus profit to the cultivator and under the play of self interest he is expected to push his outlay on land to the marginal limit, where he becomes indifferent.

The operation of the law of diminishing returns in different industries :

This tendency of diminishing returns operates in agriculture much sooner than in other industries like manufactures where returns increase for a long time. In other extractive industries also the law begins to operate sooner or later. In mining and fishing returns may increase for a time due to additional outlay on efficient and skilled labour and improved machinery, but with every increase in the depth of the mine or sea, and with the extending of operations over less fruitful or poorer mines and fishing grounds costs increase and returns diminish. Costs of management also increase as the area of operations widens.

The law of diminishing returns operates with the greatest force and much sooner in agriculture than in other industries because economies of large scale production are not possible to any appreciable extent in agriculture. There is not much scope for the division of labour and use of specialised machinery in agriculture. The operations are not continuous and of a routine character as in manufactures, and specialised labour and machinery, if applied, are in use for a limited period of the year only, which means an increase in costs instead of a diminution. And as raw materials used in agriculture are not of much importance economies resulting in manufactures from their purchase and transport in bulk are not available in any appreciable degree. Further in agriculture as well as other extractive industries the area of operations increases much faster than in manufactures where large quantities of labour and capital can be concentrated in small space. Consequently the cost of superintendence and control in extractive industries increases much faster than in manufactures.

In mining and fishing, however, there is much scope for the division of labour and use of specialised machinery, as also in

forestry, where operations are continuous and of a routine nature. The result is that costs in these industries tend to diminish and returns increase for a longer time than in agriculture, and the scale of production is usually larger in these industries than in agriculture.

In transport industries like Railways and steamship lines the law of diminishing returns does not operate so long as the fullest capacity of the fixed capital has not been utilised. Railway lines, stations and controlling staff to a certain minimum extent has got to be provided, and with every increase in traffic the proportion of fixed expenses falling on traffic decreases sharply. That is, the cost of traffic as a whole per unit of goods and passengers falls and returns due to additional labour and capital increase. In steamships also, as the carrying capacity of a vessel is increased, costs of coal or other fuel as well as of supplementary costs on offices and establishment decrease. Further the decrease in these costs more than offsets the increase in costs due to the widening of the area of operations. The longer the distance over which a load is carried, the smaller proportionately is the cost of loading and unloading as well as of taking and giving delivery of goods per ton mile.

It is, however, to be remembered that there is a limit to the tendency of increasing returns and large scale production in all industries set by (1) the increase in the costs of superintendence and direction (2) increase in the costs of raw materials as poorer and more distant sources have to be tapped and (3) the limit of the market and the increasing costs of distribution of goods among consumers. And returns in agriculture and extractive industries may be increased by improvements in the methods of cultivation and extraction and by the discovery of new fruitful sources of supply of land and minerals.

Wider application of the Law of Diminishing Returns.

The tendency of diminishing returns is equally noticeable in case of other factors of production—labour, capital and organisation, whenever and wherever there is limitation of their quantity. The daily or yearly capacity of a labourer is limited like that of an acre of land, and as he is supplied with more and more land and capital to work with or more managers and directors to work under, his output due to additional resources tends to diminish, as each additional unit

of other factors gets the cooperation and assistance of smaller and smaller quantity of labour. Similar is the case with capital and organisation. The law then applies to all the factors of production and not only to land. This wider tendency also shows that with every increase in the quantity of any one factor, other factors remaining constant, the marginal return or the return due to each additional unit of such factor tends to diminish. "The more of it there is, the smaller is the quantity of other factors, with which to cooperate and from which to derive assistance that each new unit finds available. Consequently as the quantity of any factor increases, its marginal net product in terms of commodities in general continually falls." (Pigou Economics of Welfare page 617). The law of diminishing returns as it applies to land differs from this wider tendency in this that the former applies not only to a given piece of land but also when land is increased because additional plots of land are either less fertile or more distant from the market.

The reason why the tendency of Diminishing Returns applies earlier and with greater force in agriculture and other extractive industries is that there the factor land is of paramount importance and its supply is *ultimately* limited. In case of other factors there is no such limit, and they are capable of great increase. And in manufacturing and transport industries where supplies of labour and capital can be easily increased to any amount together with the needed additions to land supply, returns go on increasing until the task of superintendence becomes inefficient.

The importance of the law of diminishing returns from land.

This law based on the physical properties of the natural agents is of great economic and social significance. The malthusian theory of population is based upon this law. It shows what has been called the niggardliness of nature, foreboding a decreasing share of the necessities of life to each individual with every increase in population and an increasingly harder struggle against nature by man for his existence. It also means that there is in store for man untold misery in the shape of famine and disease and war unless he is successful in improving the methods of production and discovering new sources of supply so as to push further and further the point of diminishing returns, or in limiting his numbers in accordance with the already available supplies. Uptil

now the civilized man has to some extent been successful in all the directions, i. e., discovery of new lands, improvements in the methods of production and limitation of numbers. But as there is a limit after all to the available land and natural agents as well as to improvements in the methods of production, limitation of numbers is the only possible alternative left

Again the theory of rent has for its basis this tendency of diminishing returns from land. Rent arises and goes on increasing continually, as we shall see, because the returns from land diminish and cost of production increases

LAWS OF RETURNS IN PRODUCTION.

The Modern Approach.

The modern economists do not agree with the idea of classical economists that Diminishing Return is peculiar to agriculture and Increasing Return is applicable to manufacturing industries. The rigid division of industries into two distinct classes, one following the law of Diminishing Returns and the other following the law of increasing returns, is said to be inaccurate and misleading.

According to the modern idea there are no three laws of return, but there is only one law of returns which may be called the 'Law of Productivity.' This Law of productivity has three phases namely (1) Increasing cost (2) Constant cost and (3) Diminishing cost

When the proportion of the factors of production invested in a particular business unit is 'ideal' or 'optimum' the entrepreneur generally gets constant returns or cost. As he approaches the optimum point nearer and nearer, he receives increasing returns or he is able to produce his articles at diminishing cost. So long as his proportion remains at this point there is constant return but as soon as he begins to recede from the optimum point he begins to have diminishing returns or increasing costs. Thus all industries—whether extractive or manufacturing—can have the three phases of the law of productivity in operation according to circumstances. The only difference is that the phase of increasing returns in extractive industries is limited in comparison with manufacturing industries

The following is the diagrammatic representation of the above law :—

(1) The Law of Productivity

1. Till A returns increase
- 2 „ B „ remain constant
- 3 After B „ begin to diminish.

CHAPTER 7

LABOUR

Economically *labour* denotes all human effort of body and mind which results in goods or services possessing exchange value. It has been well defined as "all effort of body or mind undergone partly or wholly with a view to some good other than the pleasure derived directly from the work". Thus we must leave out of consideration the labour of football players, housewives and friends, and of worshippers unless they engage in their work for payment. We must also exclude the labour of organising and direction of enterprise which forms a separate factor of production, although such exclusion seems arbitrary. The function of labour is to produce wealth by working upon materials provided by land or nature and by rendering personal services with or without the help of capital and organisational direction.

Labour may be classified into (1) *manual*, denoting all work where exertion of body is more important than that of mind, e.g., the work of artisans, coolies, porters, (2) *mental*, where the exercise of mind is of greater importance such as is the case with the work of teachers, vakils, clerks etc. Manual labour may be further subdivided into *skilled* and *unskilled*. All work that requires manual skill that comes through training, apprenticeship, or practice and experience is skilled labour, the work of porters and chaprasis is unskilled labour.

Characteristics of labour.

(1) Most of the productive or economic labour that issues in wealth is *irksome* and is undertaken for reward. Labour undertaken for love is beyond the purview of economic studies. However pleasant may be our job at the start it becomes tiring as days or even hours pass.

(2) Labour is *inseparable* from the labourer. While putting labour at the disposal of an employer, the labourer has to accept certain conditions of living and to move his own body to the place of work.

(3) Labour is very *perishable*. A day's labour lost through idleness or absence of work is lost for ever. It cannot be stored or preserved for future use like land and capital. This fact makes the position of the labourer weaker as a bargainer than that of the employer, especially as the former is poorer and unable to maintain himself when out of work.

(4) Unlike land labour increases and decreases through rises and falls in its remuneration—wages.

Productiveness of Labour

The amount of wealth produced in a country depends on the quantity of labour and on its quality or efficiency. It is the latter which is most important from the point of view of economic welfare, because it is the wealth produced per head that is important not the total wealth produced by the whole country.

The quantity of labour in a country is dependent upon the number of people, their distribution according to age and sex, and upon the number of hours worked. The larger the population, the smaller the number of women, children and aged people, and the greater the number of hours each works daily, the greater is the quantity of labour in a country, other things being equal, and the greater will then be the output of wealth.

It is, however, not the quantity but efficiency or productiveness of individual labourers, singly or in groups, which determines the well-being of the population. Increase in numbers beyond a certain point reduces well being thorough the operation of the law of diminishing returns from natural resources. An increase in numbers increases for a long time the total wealth produced but decreases wealth per capita unless the increase in numbers is accompanied by an increase in efficiency of labour through improvement in the capacity and skill of the labourers and in capital equipment, organisation and methods of production.

The Increase and decrease of population.

Increase or decrease of population in a country takes place through differences in the *birth* and *death rates* and immigration and emigration. However, increase and decrease in both these ways are dependent upon the means of subsistence available in a

country. Additional people born in or coming to a country must find means of subsistence in order to survive, while a reduction in the means of subsistence must reduce their numbers.

Thus in new countries like America, Australia and New Zealand, where natural resources are vast and existing population sparse, increase is taking place rapidly in both ways, while in old countries like India and China, where all the available natural resources have been utilised, population does not find much scope to increase, and emigration is taking place inspite of the great hardships which Indians have to put up with in foreign countries. In other countries like France and England population has increased in the past mainly through an increase in productive efficiency, and this increase in population is now much slower—almost stationary in France.

Limitation of numbers to suit the existing and prospective means of subsistence in a country is thus the burning problem of the day. In older times increase in population was seldom desired on economic grounds except in the case of perhaps scanty nomad populations of pastoral peoples. Greece, Rome and India put a premium on families due to military or political reasons, as is even now done by some small states in Europe by lower taxes and allowances in case of larger families. Nowadays, however, public opinion is usually in favour of limitation in almost all civilised countries except in new countries requiring labour for development of their natural resources.

Theory of population.

Population, like vegetable and animal life, has the physiological power to multiply faster than its means of subsistence, while the number that can live is limited by the available subsistence. Consequently, undue increase is held in check either by preventive checks, e.g. late marriages and continence, or by positive checks, i.e., war, disease, famine etc

This economic fact or principle is based directly on the man's innate tendency to multiply and on the operation of the law of diminishing returns from limited natural resources and has been given the name of Malthusian law or principle of population. And the conclusions drawn from this law about the coming 'misery for all

mankind, though valid in the long run, have been somewhat falsified by the discovery of new lands, improvements in the methods of production and limitation of numbers easily secured through a rise in the standard of living.

The subject of the growth of population and its relation to social welfare was first treated in a scientific manner by Malthus, an English priest. According to Malthus population increases in geometrical progression, (i.e. 2, 4, 8, 16) while the food supply increases only in arithmetical progression i.e. (2, 4, 6, 8.) Consequently increase in population overtakes the increase in food supply, and the population growth is checked either by positive checks in the shape of wars, famines or epidemics, or by preventive checks in the form of late marriage, moral restraint or artificial methods of birth control. Malthus himself was against the use of artificial methods and favoured moral restraint to escape the misery resulting from the operation of the positive checks.

Malthus's theory is no doubt based on his own observation of the conditions then existing in England. The theory is based upon—
 (i) a biological fact of man being endowed with the instinct of sex and his propensity to multiply his own race (ii) a physical fact, viz the Law of Diminishing Returns operating in the exploitation of natural resources. The conclusions drawn from the theory about the coming misery of all mankind because of the increase in population has been largely falsified by the events of the past 150 years. This has been due to the discovery of new lands, improvements in the methods of production and transport and to some extent by voluntary limitation of numbers brought about by a rise in the standard of living.

The Malthus's theory of population has been criticised on the ground that the mathematical relationship propounded by Malthus between the growth of population and growth of food supply is not true in practice. This will no doubt be accepted by Malthus himself. Being a Mathematician he expressed an economic idea in mathematical language to give better conception of the relationship between population and food supply.

Secondly, it has been contended that Malthus did not take into account improvements in the methods of production and transport.

checks to the operation of the Law of Diminishing Returns from land, nor did he foresee great increase in the productive power of men in the industrial field (as distinguished from the agricultural field) which enabled a population to export its industrial products and obtain food in exchange.

Thirdly, Malthus did not take into account the limitation in numbers brought about by a rise in the standard of living. As man's income and standard of living rise he usually becomes more prudent and postpones marriage and bringing forth of children until income becomes enough to support the family at a certain standard of comfort. The first criticism has already been met. Of the third criticism Malthus had already taken note of the preventive checks. The second criticism is however true because Malthus had not foreseen the great progress in agriculture and industry brought about by revolutionary changes in the technique of production. Yet such progress is after all limited in its scope. Again the possibility of an industrial country like England obtaining large quantity of raw materials and food supplies in exchange for her industrial products is also very limited. Malthus's theory, thus, does apply if we take into consideration the world as a whole and also take a long view of things.

Marshall notes three parts in Malthus' reasoning.

(1) **Supply of labour** Careful study of facts proves that every people has been so prolific that the growth of its numbers would have been rapid and continuous if it had not been checked either by a scarcity of the necessities of life, or some other cause, that is, by disease, by war, by infanticide, or by voluntary restraint.

(2) **Demand for labour.** After population had grown dense, no country had been until then able to obtain abundant supplies of the necessities of life. "The produce which Nature returns to the work of man is her effective demand for population."

(3) **Conclusion.** Past is clue to the future. "The growth of population would be checked by poverty or some other cause of suffering unless it were checked by voluntary restraint". "He therefore urges people to use this restraint, and, while leading lives of moral purity, to abstain from very early marriages."

His first point remains substantially valid. His second and third points have become antiquated as he did not foresee the rapid changes in means of transport, colonisation of new lands and improvements in the methods of production.

The optimum population.

A question of practical importance in connection with the problem of population, however, is to ascertain optimum or best possible population for a country. The conception of *optimum population* has been explained in many ways by different writers. According to Professor Cannan optimum population is "A point of maximum return, attained when the population is so exactly fitted to the circumstances that returns would be less if the population were either less or more than it is". Professor Carr-Saunders regards that density of population as optimum which 'will obtain the largest income per head'.

These two views indicate the same point about the idea of optimum population—that a country should contain a size of population which is just enough to exploit its natural resources in the best possible manner so as to have the highest income per head. The point is easy to define and explain, but difficult to ascertain. A country can reach it only after a great deal of experience, and even then there can be no population permanently optimum. What is optimum to day can not be so after ten years. It varies according to the state of economic development of a country. What is optimum under one form of economy may cease to be optimum in another form. Similarly an optimum population in a country at a time, when it has not entered into trade agreements with other countries, may become below or above optimum as soon as it commences international trade.

The idea of optimum population, however, seems to be a very good goal to reach but difficult to accomplish, and consequently it has lost its charm in the field of Applied Economics.

The Modern view.

The Modern economists are of opinion that the population problem can not be solved simply by tackling the size of the people nor can it be solved permanently. It can be solved for a particular

period of time only and that too by attacking it from all sides. The problem of population is "not merely that of size but of efficient production and equitable distribution", and it is not only economic, but social, political and religious as well.

From this it follows that although India is over-populated just now her population can increase still further and yet reach a higher standard of living, provided her natural resources are fully exploited and the efficiency of her people increases. The high rates of infant mortality and the prevalence of epidemics and famines taking huge toll of human life are evidences of over-population. But if production of wealth is increased through proper planning and a more equitable system of distribution is introduced, there is scope for an increase both in numbers and standard of comfort.

The Density of population.

The density of population in a region depends upon the procurability of the means of subsistence. The means of subsistence can be procured either directly through agricultural production as in the Ganga valley, or indirectly through industrial production and exchange. In both the cases facilities for production will be the governing factor in the determination of the density of population. The natural resources—the physical environment, climate, rainfall, power resources etc—, the means of transport, the nature of occupation; political security—all affect productive capacity and through it the density of population in the region. The urban industrial regions provide more extensive occupation and have greater density of population, while in rural areas occupation is scarce and the density of population lower. But it must be borne in mind that higher density does not necessarily imply over-population. The criterion of over population is different. In spite of high density, the population may not be more than what can be fed by the means of subsistence or may be less than what is necessary for utilizing the resources of the region. On the other-hand, even with large population, the density may be low as is the case in India.

Efficiency of labour.

The term efficiency of labour denotes the productive capacity of labour per head in a given unit of time. It is this per capita productivity which governs the well being of the population. Evidently the labourers who produce hundred maunds of wheat or rice in a year will be better off than those who produce only fifty. From the point of view of the employer of labour, however, efficiency is measured by the value of his output and the wages paid in a given period of time. Thus, to him the labourer who produces 8 Annas worth of goods and accepts 4 Annas as his wage per day is more efficient or profitable than the one who produces one Rupee worth of goods and demands a wage of 14 Annas.

Factors governing the efficiency of labour.

Efficiency in the sense of the size of net output is of greater importance from the point of view of national welfare. This efficiency depends upon two broad factors (1) Internal to the labourer and (2) External conditions affecting productiveness. Among *internal factors* determining efficiency are the labourer's *power to work* and his *will to work*. Power to work in its turn depends upon physical, intellectual technical and moral fitness for work, while the will to work—diligence and application to one's task—comes from a sense of duty, interest in the work and from ambition to improve one's pecuniary and social position. Both power to work and will to work are determined partly by birth and partly by environment. Environment can be improved by parents of the labourer, the employers and the state. Thus, physical fitness though partly the out-come of qualities racial and parental—can be improved by proper nourishment and parental care in childhood, by the provision of sanitary surroundings at home and in the factory, a fair amount of rest and recreation and a living wage yielding adequate quantities of necessities and comforts of life during the working life. Intellectual and technical fitness are largely dependent on education and training. A sound general education and technical training and apprenticeship cultivate both the mind and hand. Moral fitness denoting honesty, faithfulness and perseverance are even more important for efficiency. They are largely the outcome of religious and social surroundings, but even

they can be developed by a proper system of education at home and in the school

The development of these qualities is of great importance for national well being, and it is the duty of the parents, the employers and the state to do all they can in this respect. Unfortunately the parents have neither the resources nor the prudence and unselfishness required to give education and training to any adequate extent. The employer on his part is deterred from such investment in his labourers or their children because there is no certainty of his retaining their services. It is this fact which puts upon the state the responsibility of promoting efficiency of labour. The modern state discharges this responsibility partly by compelling the employers to provide certain minimum conditions in regard to hours of work and wages and partly providing education and some of the essential amenities of life at its own expenses. Good employers generally always go a little further than what the law compels them to do for their employees. Thus some of them provide medical facilities, education, recreation and housing at concessional rates

An enlightened employer like Henry Ford can do much to improve the efficiency of his labourers to the advantage of himself as well as of his employees by providing a living wage, recreation and rest and suitable promotions. A careful study of fatigue has revealed the fact that long hours do not necessarily result in more work. Longer hours after a certain point result in less work per day, and a wise employer should always be careful not to overstrain his employees, as this is as much against his own interest as against that of the labourers and society.

External conditions affecting efficiency of labour are :—

(1) Richness and suitability of natural resources. Rich soil, mineral wealth, power resources and good climate naturally yield better results than poorer resources. Efficiency and high wages in America are largely due to the richness of her natural wealth.

(2) The adequacy and suitability of capital—tools and materials are other things that directly promote efficiency. Lack of sufficient capital and the obsolete character of implements used by Indian

farmers and artisans and even in some factories partly explain the inefficiency of Indian labour—probably more than the tropical climate which forbids sustained work for a large part of the year.

(3) Organisation of labour in production—suitable division of labour—the scale of production—combination of various factors in appropriate proportions—are other factors which affect the efficiency of labour as much as the efficiency of organisation itself.

Mobility of labour

The mobility of labour denotes the ability and willingness of people to move either from one place to another or from one occupation to another. The first is geographical mobility and the second occupational. The geographical mobility may be internal-movement within a country or external movement of labour from one country to another. Factors like nationalism, patriotism, family affections, religion, ignorance of opportunities offered by another region and attachment to a particular locality generally discourage geographical mobility of labour. But factors like easy, safe, cheap and quick means of transport and communications, good international relationship, political stability, sense of security and a common language promote this type of mobility of labour.

Occupational mobility is also of two types (1) Vertical mobility of labour which means movement of labour from one grade of occupation into a lower or a higher grade in the same or in a different industry (2) Horizontal mobility of labour implies the movement of labour between similar grades. This type of mobility is generally hindered by factors like family pride in a craft, cost and risk involved in change of occupation, rigidity of the caste system. The division of labour and use of machinery, on the other hands, facilitate the mobility of labour of this type

Mobility of labour promotes efficiency in so far as it helps to put labourers in the right place and at the right job. It increases productive capacity and economic welfare of the country as a whole. Every man goes to the place where his services are wanted most and where he gets the highest wages, mobility of labour also equalizes wages.

CHAPTER VIII

Capital.

Capital in the economic sense of the term denotes those forms of wealth, other than land or natural resources, which are *used or intended to be used* for further production of wealth. Hoarded wealth, in whatever form it may be, is not capital. Thus capital includes all wealth *produced by man* and devoted to productive purposes. Factory buildings, machines, tools and raw materials are capital but not clothes, furniture, cars or books *used by owners for satisfying their wants directly*. But even these latter things would of course be capital if used in business by tailors, carpenters doctors and booksellers respectively. Capital is said to be productive because with it a man's capacity to produce wealth increases, but this property of capital is common to all the factors of production. Capital also yields an income to the owner in the shape of interest and dividend. Here it may be noted that a car and other durable goods like furniture bring an income from month to month in the shape of satisfactions, but by common consent they are not called capital.

Surface of land and other natural gifts devoted to production of wealth are not capital. This distinction between capital and land appears arbitrary to the beginner, but is of considerable significance and must be clearly grasped. The term capital is used for things produced by man, whose quantity is, unlike land, capable of increase through saving and of reduction through consumption. The supply of land is, on the other hand, fixed for all practical purpose and is not capable of variation. It is this fact which explains the difference between rent and interest.

Money Capital and Real Capital. It is Capital in the form of tools and materials that helps in production. Capital in this form may therefore be called *real Capital* or *Capital goods*. Money only represents command over Capital goods. It helps in producing other goods only when it is turned into real Capital goods. Even

but the real capital here also is food, cloth and shelter which labourers procure with wages

In short, the function of capital is to provide labour with sustenance for life, tools to work with and materials to work upon. The real importance of capital lies in its power to increase man's productive capacity. It enables labour or human beings to employ their physical and mental energies more effectively in producing goods and services needed directly for consumption and also those needed for producing capital goods themselves. The quantity of fish saved by the fisherman may be used for making a net for catching larger quantities in the future or for preparing a better net or for manufacturing machinery required to make such nets. Capital introduces into production this 'roundabout process', that is, the process of production of consumption goods is lengthened into a complicated chain representing numerous machines and processes through which goods pass before they are ready for human use. But the quantity of such goods produced per man in a given period increases manifold.

Factors affecting the growth of Capital.

The chief conditions which favour or check the growth of capital may be summarised as follows :—

The power to save The greater the excess of income over expenditure, or production over consumption, the greater is the power to save and accumulate capital. In so far as India is a country where industries are undeveloped and the vast majority of the people are poor having small incomes hardly sufficient to keep body and soul together, the power to save is very low. The recent progress in industry and commerce is, however, swelling incomes and the power to save is to that extent gradually increasing.

The will to save But mere power to save is of little consequence in the growth of capital unless accompanied by the will to save. The will to save is encouraged by security and discouraged by insecurity of life and property. Thus since the establishment of comparative peace in India, capital accumulation has been encouraged greatly.

Then there is prudence—a strong desire to provide against the foreseen and unforeseen requirements of the future—which promotes saving. Similarly, an ambition to raise the standard of life and power of oneself and one's children is a strong incentive to saving and growth of capital.

Unfortunately in India the mass of the people with paltry incomes and low standard of living possess neither the power nor the will to save. Foresight and ambition are both of them largely absent, and saving is rarely undertaken. Among the upper middle and richer classes, however, the power to save and the will to save arising from a love of family improvement are strong and capital is growing among this class quite rapidly. Among the zamindars, however thrift is seldom practised, due to an assured recurring income. Here it may be noted that emphasis by some parties on nationalisation of industries, confiscation of property and even limitation of dividends is tending to discourage saving —

The opportunities of investment at attractive returns is another factor which promotes both the will and the power to save. Thus the comparative lack of banking facilities, arrested growth of joint stock enterprise, and absence of stock exchanges and financial houses in India in the past have tended to retard the growth of capital, while their presence on an organised and extensive scale in the western countries has promoted large accumulations.

As a matter of fact, the absence of banking facilities and the failure of some banks and companies run by inefficient or dishonest men have all combined to sustain and revive the hoarding habit in India which means that much of the capital resources of the country remains dormant and is practically non-existent so far as capital is considered an effective instrument of production.

Insurance Companies—life—fire as well as accident also promote saving and the growth of capital. Such Companies in a way educate and induce people to save and accumulate vast sums which they utilise directly or indirectly in financing industry and trade. The growth of insurance business in recent years has been of great help in increasing capital in India, but the pity is that a part of our savings goes to foreign countries in the shape of the profits of foreign concerns.

The classification of Capital

Capital goods have been classified from several points of view. From the point of view of duration all forms of capital may be divided into two classes (1) *Fixed or sunk capital*, which includes buildings, machinery and other durable equipment that renders repeated services from year to year over a length of time in producing wealth. Railway lines, engines, station buildings, canals etc are all examples of fixed capital. For providing such capital usually large funds are required at the start of a concern and they become locked up for a long period. They are therefore provided either by the owners themselves or borrowed for long terms from industrial banks or against issue of debenture bonds. Fixed capital needs constant repairs and it has to be renewed or replaced from time to time as it gets completely worn out or rendered obsolete through invention of better types. It is also subject to *depreciation* through wear and tear, in a way its value is constantly passing into the value of the goods it helps to produce until its entire value disappears. (2) *Circulating or floating Capital* denotes the other forms of capital which serve only once and the whole of whose value passes into the value of the finished goods in one round. Such is the case with raw materials including fuel and other sources of power, semi finished goods and wages. Such capital goods can be provided out of short term loans, which can be repaid as soon as the finished goods have been sold. The proportion of fixed capital required in a factory or Railway company is much larger than in a trading concern.

Capital has also been classified into *specialized* and *free* capital according to the number of uses to which it can be put. Thus (1) *Specialized capital* denotes those forms which can be serviceable only in one particular process such as spinning frames and looms in a cotton manufacturing factory. They can only be used for spinning of yarn and weaving of cloth, if for any reason they are not required for these purposes they become valueless except as scrap. (2) *Free capital*, on the other hand, includes those forms which can be put to more than one purpose or use such as fuel and even boilers and engines of a cotton factory. These can very well be used for driving jute manufacturing machinery or for grinding wheat into flour if they are no longer required for moving

spinning frames and looms. Money, of course is the free most of all capital. With the growth of division of labour and use of specialized machinery the proportion of specialized capital has tended to grow until we now have many huge, complicated and very costly machines that serve a very minute part of the productive process, and become entirely useless if the process they serve is rendered unnecessary through invention. The real significance of this classification lies in the fact that specialized capital is entirely immobile as regards its use while free capital can move freely from less to more profitable lines of production. Thus sometimes specialized capital may yield no return whatsoever, free capital will not tolerate such a position.

Another way of classifying capital is according to its direct or indirect aid in production. Thus (1) *Production Capital* denoting machinery, buildings and raw materials is helpful in production more directly than (2) *Consumption Capital* like food and cloth used by labourers for their maintenance during the period they are engaged in working upon the materials. In the latter case the relation may not appear to be so direct but it is not less important. Terms Auxiliary Capital and Remuneratory Capital may also be applied to these two classes in so far as the former aids the labourers to produce while the latter is used to remunerate them.

Mobility of Capital means its movement from those places and occupations where it yields lower rate of interest to those where such rate is higher. Such mobility is profitable both to the individual owner and to the community in so far as the former's income is increased and the latter benefits through greater productiveness of capital brought about by such movement. For, unless its productiveness is greater in the new place or occupation higher rate will not be paid. Such movement of capital brings about a proper adjustment in the supply of capital as between different regions and industries and it also tends to equalize the rates of interest prevailing in them.

The mobility of capital is obstructed by certain factors, one of which is that *specialised* capital cannot move from one process to another, e g a typewriting machine cannot be used to spin yarn.

Again *fixed* capital in the shape of buildings cannot be moved to another place, even the movement of machines is very costly

However, there is little difficulty in the mobility of *free* and *circulating* capital, and money being the most fluid form of capital can and does move very freely even from one country to another. This is particularly the case with 'short term funds' transferred between important monetary centres like London and New York through bank drafts and telegraphic transfers at a nominal cost. Mobility of capital has been greatly facilitated by the development of banking, quick means of communication and organised money and foreign exchange markets. The recent establishment of the International Monetary Fund and the International Bank for Reconstruction and Development are bound to increase this mobility by facilitating international borrowing and minimising exchange fluctuations.

It may also be noted that mobility of capital is freer than that of labour. Capital has not to contend with the difficulties involved in the change of occupation and place by labourers such as personal prejudices, love of home, differences in language and climate and the high cost of moving a whole family. This is why differences in wages are much wider between one region or occupation and another than in the rates of interest

Relation between Capital and labour.

Capital and labour are very closely allied. In fact, capital is, as we have seen, the result of past labour. And it directly and most obviously increases labour's capacity to produce wealth, so that the more capital is put at the disposal of labour the more goods can such labour produce. Again, with an increase in capital in the hands of employers, their demand for labour must increase and with it must rise the rate of wages they are prepared to pay to the labourers. Capital thus cooperates with labour and improves not only the latter's productive capacity but also its rate of remuneration. Naturally the relation between capital and labour ought to promote harmony rather than conflict. It is increase in the labour force that really goes against the interests of labour in so far as competition among labourers for employment increases and wages tend to come down. This shows how increase in *cooperating* factors is helpful

to a class or group while that in competing factors is harmful to it. And labourers ought therefore to welcome increase in capital.

Unfortunately we see these days more of *conflict* between capital and labour than of harmony. This arises from two causes (1) Some kinds of capital do compete with labour. The forms of capital which are labour saving displace labour, increase unemployment and may even bring down wages. However, such effects of machinery are only temporary, and labourer's hostility to the introduction of machinery is short-sighted (2) Secondly though capital is only embodied labour, its ownership is in the hands of a separate set of people called capitalists, whose profits swell as wages become lower and decrease if wages are higher. This is the point of real conflict and explains the root cause of the class war and the strikes and lockouts to which it gives rise. However, these strikes and lockouts are injurious to the interests of both capitalists and labourers, the former's profits and the latter's wage earnings are reduced and the community as a whole also suffers from cessation of production. Scarcity of goods caused by these conflicts raises prices and increases the cost of living of the labourers as well as others, This is borne out very clearly by the post-war industrial situation in India as well as in other countries

Low wages reduce worker's efficiency and cannot be conducive to the long-term interests of the employers, and high profits must improve the lot of the workers to the extent that they increase capital and widen the field of employment of, and demand for, labour. Enlightened self-interest therefore lies in the two co-operating with each other. This is being realized by an increasing number of employers who are providing better wages and amenities to their employees, while enlightened labour leaders are trying to appreciate the view point of the employers. The state in its turn is promoting harmony through the provision of machinery for conciliation and arbitration. Unfortunately, the militant type of labour leader wants to eliminate the employer altogether and is interested not in harmony but in bloody conflict. It may, however, be noted that even they are opposed not to capital but to the capitalists.

This conflict is of recent origin. So long as labour owns capital as under domestic or cottage system of industry the interests do not con-

dict. It is only under the factory system that there is complete separation of ownership of capital and labour. Apart from complete elimination of capitalists as under communistic economy there are other ways of harmonizing the interests of labour and capital such as co partnership and profit sharing schemes. They are better than communism in so far as they do not kill the incentive to save and create capital and at the same time better the lot of the workers by giving them a share in profits and even in management.

CHAPTER IX

Organisation and the Organiser.

The term organisation denotes the work of bringing together and directing the necessary factors of production of a productive unit in a proper manner and bearing the risk of failure to make the unit profitable. In the early stages of economic life the person or persons who supplied labour were also the organisers. The nomad hunted in the jungles with the help of his crude weapons which constituted his capital. He used his own labour as well as judgment in all his operations and bore the risks not only of failure but also of death at the hands of wild animals. Here however organisation in the technical sense formed an insignificant part of the productive process. With the advancement in the industrial arts and the rise of the factory system organisation has become a distinct factor of great importance. The various factors of production are usually provided in a factory by separate groups of persons through the instrumentality of the organiser. The work of running a factory has become so complicated that great ability is needed in organising it successfully.

This is why organisation is now treated as a separate factor of production even though it is in reality only a special kind of labour. The person who provides this service of organising a business is called the organiser. He has been called "The captain of industry" who does in the economic sphere what army captains or rather generals do in the fields of battle. Organisers of productive enterprises must therefore be persons possessed of really high grade ability in their respective spheres. In factories and mills owned by companies the organisers are the directors and managers, though of course the risks are borne by the shareholders along with the directors. Who also happen to be shareholders. The services an organiser renders in production are broadly two (1) the organisation and the direction of the business and (2) the bearing of the risks involved in it. This second function is sometimes denoted by a special term called 'enterprise'

The detailed functions of an organiser may be described as follows —

(1) *Promotion of an enterprise.* The organiser or entrepreneur as he is sometimes called discovers a 'proposition', that is, finds out the possibilities of a profitable business and estimates the amount of capital needed to start it. He then raises the necessary capital either from his own private resources or secures it from other persons by forming a partnership or a joint stock company. (2) *Equipment and staffing of the business.* Having secured the necessary capital he chooses a suitable site for the factory or shop, erects the necessary buildings, equips them with the right type of machinery and engages the various kinds of managerial staff and skilled and unskilled workers all of right type and in appropriate proportions. (3) *Purchase of raw materials and marketing of finished products.* In this, as in fact in others, he has to exercise great care and foresight, always trying to secure all possible economies in the costs of his purchasing and selling establishments. (4) *Planning of the processes of production* on the most economical lines, introducing division of labour and scientific management so as to eliminate waste and reduce the costs of production to the lowest possible level. (5) *Remunerating the other factors.* He has to find the money for paying rent, wages, and interest according to the rates agreed upon and receiving as his own remuneration as profit what is left out of the 'net product'. If he is unable to sell the produce he may have to borrow funds for meeting the demands of his labourers and creditors. And in these days of strong trade Unions he has to placate labour by increase in wages, reduction of working hours, granting of bonuses in cash and kind and yet to maintain profit. (6) *Bearing of the risks.* If profits are large he gets the whole of them, but if the business results in loss for any reason he has to bear the whole loss. For this reason he has to be very alert in his operations and particularly in watching the market trends. Not only should materials be purchased at the place and time where they are cheapest but the finished goods must also be sold in the dearest market. Most of all he has to watch the changes in customer's fashions and tastes and to be constantly on the lookout for introducing the most up-to-date machinery and methods of production so as to be able to face competition of his rivals.

The element of risk-bearing in business enterprise is of great importance. There are certain risks such as losses caused by fire and theft and those involved in the transit of goods over railways and ships. These can now be insured against at a small premium, which forms a necessary part of the cost of production, and these facilities are available to all organisers. But there are other risks termed business risks, which have greatly increased due to the expansion in the scale of production and size of markets coupled with the system of *production in anticipation of demand*, so that between the time the process of production is initiated and the goods are ready for the market the prices may go down substantially below those anticipated at the start or sometimes the demand as a whole may altogether disappear through change of fashion. Again continued invention of improved machinery and discovery of more economical processes of production are constantly rendering existing capital equipment obsolete while alternative sources of supply at lower costs are ever making their appearance. Under these circumstances the organiser of a modern business has to be a man of great initiative, ability and enterprise.

The Problems of organisational efficiency.

Apart from the efficiency of the different factors of production including that of the organiser himself, there are a number of factors which have a bearing on the productive efficiency of the business enterprise as a whole. The chief ingredient of this efficiency lies in the reduction of costs of production to the minimum. Any factor that minimises waste and secures economy in costs is of importance not only to the interests of the factors of production who are able to withstand competition and to increase their rewards but also to the interests of the community as a whole, in so far as reduction in costs leads inevitably to the lowering of price and benefits the consumers. These factors, governing organisational efficiency of productive establishments, may be grouped under the following heads —

- (1) The Division of labour and its different phases
- (2) The Scale of the productive unit.
- (3) Principles of Substitution,
Rationalisation and Planning
- (4) The Form of enterprise

(1) The Division of Labour

The division of labour denotes division of a given piece of work into a number of smaller tasks and assigning each task to a particular individual worker or a group of workers. For example, preparation of cloth out of cotton is a piece of work, the whole of which may be carried out by one person. But under division of labour spinning, carding, pining, weaving and finishing may be done by different individuals. Thus there is division of labour among the males, females and children of even a primitive family, among farmers, weavers, carpenters and barbers in a village or country, among the different types of workers such as spinners and weavers in a factory and among different regions or countries producing one or a few kinds of goods only. The important thing about the division of labour is that each part of the whole task is or should be carried out by the person or group most fitted to do it. There are three different phases of the division of labour —

(1) *Division into complete processes or occupations* such as spinning, weaving, shoe making, oil pressing, each process being wholly carried out by a separate individual or group called spinners, weavers, shoe makers and oil pressers.

(2) *Further division into a large number of incomplete processes* of a single process like spinning in a modern spinning mill and each minute process being carried out by a separate machine tended by a separate worker.

(3) *Geographical or territorial division of labour*, also termed localisation of industries, denoting production or manufacture of a particular commodity in one region or locality. Thus Bengal produces and manufactures mainly jute, the United Provinces and Bihar specialise in the growing of cane and manufacture of sugar, while Switzerland manufactures watches and electrical goods.

Advantages of the division of labour.

Division of labour secures many economic. It increases the quality and improves the quality of the output and of course reduces the cost of production and prices of goods to the consumers and raises the workers' efficiency and wages. It does this by making it possible (1) to put each person or worker in the right place, i.e., to assign

to him the part of the task for which he is most fitted. Without this each person will have to perform each part or process and this will lead to waste of energy or skill. For example, a person expert in weaving will have also to gin and spin cotton or an accountant may have to despatch letters in an office. Or again a strongly built labourer will have to wind yarn which can be easily done by a small child. In the first case it is waste of skill, in the latter case it is waste of energy. In both cases costs increase as a more highly paid person does what can be done by a lower paid worker. (2) *to increase the skill of each worker.* By repeating the same small process over and over again each worker becomes an expert able to perform his task better and quicker and to produce more goods of better quality. (3) *to save time and tools* by each worker continuing the same process with the same tool throughout the working hours. Without the division of labour hanging from one process to another wastes time and reduces output, while the tools that remain idle mean so much more investment of capital for a given output and loss due to interest and depreciation of such capital. This is particularly significant in the case of machinery which costs much and depreciates through obsolescence. (4) *to employ machinery driven by power.* This increases the output per worker per day many times and reduces the cost of production very much even taking into account interest and depreciation charges and expenses on coal or other sources of power. (5) *Division of labour* has also encouraged invention and employment of machinery, as far as division of a task into simple processes makes it possible to devise suitable machinery.

Limitations of the division of labour.

The extent to which division of labour can be carried in a region or occupation is governed by these factors, (1) *The extent of the market.* If the demand for the products is small there is not much scope for the division of labour. Thus the village carpenter not only makes and repairs ploughs, carts, doors and charpais but also does all that the blacksmiths do in the cities. On the other hand carts, doors and furniture are made by quite distinct groups of carpenters in the cities. This is because no village carpenter can remain fully employed if he did only one kind of job. (2) *The continuity of the process performed by a worker.* Weaving can be carried on throughout the year but not sowing and reaping of wheat and most other agricultural operations which are

seasonal and of a very short duration. Thus agriculture has little scope for the division of labour (3) *Variety of wants and demands* The smaller the number of wants and kinds of goods required in a community or region the smaller is the number of occupations which can be carried on by its people. Thus in a primitive community there is little scope for the division of labour

The division of labour has some *disadvantages* such as interdependence of the people and the resulting difficulties experienced by all when work on one of the processes is stopped for any reason. Thus if spinners strike work carders, weavers and dyers are forced to become idle. Minute subdivision of labour in factories and specialisation by localities have their own drawbacks, which will be seen presently.

Minute division of labour and the use of machinery

One of the effects of the division of labour has been invention and use of machinery. A machine is distinguished from a tool by the fact of the latter being wielded by human hand while the former is driven by power, say, steam or electricity. Use of machinery has secured a number of advantages in production. (1) Being driven by mechanical power it not only relieves strain on human muscles but also increases many times the output per head per hour (2) It calls for and increases intelligence of the worker and at the same time makes it easier for him to learn a process reduced as it is to the simplest form thus reducing the period of training (3) Again, the very simplicity of each process performed by all machines makes it easy for a labourer to change his occupation. This increased mobility of labour results in easy adjustment of labour supply and increases efficiency. (4) Monotonous repeating of the same movement of hand and muscle over and over again is taken up by the machine and the worker is relieved of such monotony (5) It enables the employment of physically weak labourers, and also women and children and thus increases both the productive power and earnings of a family (6) Its work is not only quicker but also more regular and accurate, putting out goods of absolutely uniform size and shape. This *standardisation* or *uniformity* facilitates replacement of machine parts and extends markets for goods as well as machines, whose repair becomes so easy (7) On the whole machinery increases efficiency and wages of labour and

Localisation of industries arises from certain definite economic advantages, which have been termed by Marshall as '*external economies*' of large scale production. They accrue from concentration of a number of productive units engaged in the same industry in one place or region unlike '*internal economies*' which are due to the largeness of a single unit. These economies or advantages which give rise to localisation are —

(1) *Natural Factors* such as (a) *nearness of raw material or source of power*, particularly when these are bulky and the cost of transport is relatively high. Thus with the emergence of the factory system using power driven machinery many industries have tended to concentrate near coal mines. Examples are Lancashire cotton manufactures and woollen factories in Yorkshire. Where raw material is more bulky than coal in relation to value such as sugarcane the industry finds it more economical to be near sources of raw material and to obtain coal from a distance. Thus sugar factories in India are found in all sugarcane growing provinces even though they are far away from coal mines. Where both fuel and raw material are bulky as is the case with coal and iron ore, the industry gets localised where both are found in proximity, e.g., the Indian Iron and Steel Industry in Bihar. Before the introduction of the steam engine industry tended to be located near waterfalls which provided cheap power. Water-power is nowadays converted into hydroelectric energy, which can be spread over a wider area and the result is diffusion of industry throughout such area. (b) *availability of cheap transport facilities* such as sea, lake or navigable rivers through which bulky fuel or raw materials can be cheaply transported. Thus Bombay used to obtain coal for its cotton industry quite easily from England and South Africa. Such facilities of transport make easily accessible not only the sources of power and raw material but also the market for finished goods. Though railways are not a natural factor they provide similar special facilities to certain localities and cause localisation of particular industries. Thus Kanpur has a good access to coal as well as cotton and hides through the railways and has become an important centre for both cotton and leather industries. (c) *Suitability of climate* is another natural factor that favours localisation. Thus the moist climates of Bombay and Lancashire attracted cotton spinning before artificial methods of humidification were evolved.

(2) *Political and social factors* such as (a) Good market provided by the Kings and nobility in a Capital City like Agra in olden times for such products as carpets and stoneware. (b) Special encouragement by the state in the shape of subsidies, bounties and protective tariff extended to an industry. Such state aid reinforces the meagre advantages enjoyed by a locality. Thus Napoleon encouraged beet sugar industry in the Continent of Europe India's sugar industry itself has grown by leaps and bounds since protection was granted by the Government in 1932 (c) Special aptitude of the people, sometimes natural but very often acquired through experience Thus we have the examples of Benares weavers and Italian painters.

(3) *Momentum of an early start.* Sometimes there is no ostensible cause of localisation of an industry discernible in a place except that some pioneer possessed of vision and adventure started it without any special facilities Once started certain favourable conditions appear and it then becomes both easier and more economical for other units to be located there than elsewhere, Thus Benares silk weaving and Moradabad brassware industries may be largely based on this factor of an early start, as also perhaps the Cotton manufactures at Beawar in Ajmer-Merwara.

Persistence of localisation

Once an industry becomes localised in a place or region many favourable conditions, as stated earlier, appear and reinforce the initial advantages of localisation, such as (a) availability of specialized skill All workers knowing the trade tend to flock to the centre where there is demand for their skill (b) growth of subsidiary industries and trades, meeting the needs of the localized industry, e.g., agencies supplying raw and packing materials, machinery and its spare parts, repairing shops, distributive middlemen, 'finishing' trades, transport services, all of which feed and are fed by the localized industry. (c) Knowledge of the technique of manufacture and handling of the goods itself becomes localized while research and experiment are facilitated by both competition and cooperation among rival units. (d) Reputation or goodwill acquired by the locality itself becomes a strong factor in course of time (e) Protection and state aid in other forms may sometimes be extended after the industry has been started so as to sustain it against rivals.

Factors tending to favour decentralisation of industry

Certain conditions have recently appeared which strongly counteract localisation. (a) Thus the *emergence of cheap hydro-electric energy* distributed over hundreds of miles through over-head wires secures to the small workshop many of the advantages enjoyed by big factories. Concrete examples of this may be seen in the innumerable grain grinding mills and other small workshops in any big city served by electric supply plant and in the wide rural area extending over many districts served by the U P Hydro electric scheme. (b) Then there is considerable saving in the costs of transporting raw material from the producing areas to the factory and finished goods from the factory to the consuming centres. (c) Danger of wholesale destruction of a concentrated industry through bombing has recently appeared and decentralisation is being advocated and even practised in spite of its economic disadvantages. Movement towards *regionalisation of industries* has been dictated partly by this fear and partly perhaps by local or provincial patriotism. *Transport bottlenecks*, denoting pressure on railways, steamships and motor truck services, will also favour decentralisation.

The scale of the productive unit.

It is a matter of common knowledge and experience that the larger the quantity of goods or services produced or handled by an industrial, trading or transporting establishment the lower is the cost of producing each unit of output. This is due to a number of economies secured by a large scale enterprise. These economies of large scale production may be grouped under two heads.

(4) *Internal economies* are those which arise within an industrial unit, depending on its size. They are (i) *Economy of skill* made possible by the greater scope for the division of labour. The larger is the establishment the greater is the possibility of putting each worker or group to the smallest job or part of a process in which he is an expert. (ii) Economies resulting from employing high grade managing ability and costly specialized machinery, for which there will not be enough work in a small establishment. This also means economy in power or fuel consumption. A large boiler consumes less fuel per horse power produced than a smaller one. (iii) Economies of buying and transporting raw materials in bulk. Lower prices and

transport charges are usually quoted by suppliers and carriers for larger quantities than for smaller ones (iv) Economies resulting from utilizing by-products and providing subsidiary services, whose quantity is large enough in a big establishment to be undertaken economically. Thus a big sugar mill uses its own trucks for transporting materials and may turn its by product, molasses, into power alcohol, thereby securing to itself the profits of an outside transporting agency and the power-alcohol plant. (v) Saving in costs of marketing. The cost of advertising, transporting and distribution per unit of product grows smaller as the quantity handled becomes larger (vi) Then there is greater scope for employing relatively large amounts of capital over research and experiment and evolving more efficient and economical machines and processes of production in a big establishment as the cost on such research per unit of output is negligible.

(B) *External economies*, denoting advantages arising from localisation of industries and not directly from the scale of a productive unit, have been described under localisation of industries

Economies of Large-Scale management and combinations

Economies of large scale production arise, it may be noted, from an increase in the size of a single productive unit—a factory or workshop or from concentration of a number of independent units in a particular locality. Certain *additional economies* result from bringing under one management two or more industrial units that have already attained the most economical size. Such economies may be termed *economies of large-scale management*, it is these that have led to various types of combinations in industry.

These combinations may be (a) *vertical* such as bringing together under one management cotton ginning, pressing, spinning, weaving and dyeing factories or (b) *horizontal*, denoting several spinning or weaving mills combining together. The combination itself may be of several types (1) *merger*, the most thorough going is one in which all the combining units merge their identity into one gigantic company such as the Associated Cement company of India Ltd formed in 1937. (2) *Trust* A looser form of combination is the *trust*, in which the combining units or companies maintain their legal identity but

secure unified control through central management being entrusted to trustees elected by shareholders of each unit. For all practical purposes the combining factories or units become one for purchase of materials and sale of goods. This trustification has been most practised in the United States of America, the most famous example of which is the United States Steel Corporation. (3) *Pool or Cartel* A third form is the pool or cartel mostly tried in Germany. Here the combining units remain fully independent in the matter of management and earning and distribution of profits, but agree to divide the total output or market among themselves on a certain basis. A variant of this form is joint marketing of the output of all the unit by a common concern formed by them. Thus the Cement Marketing Company of India Ltd. has been formed by a number of Indian Cement companies to sell the cement produced by such companies at a uniform price. The output of all is *pooled* together for sale from which this form of combination derives its name. Sometimes the agreement is limited to charging a uniform price by all the units. In all these varieties of pools as well as in other forms of combination restriction of competition and maintenance of price are common.

All forms of these industrial or business combinations secure in a greater or less degree a number of economies in costs and help to maintain or increase profits. These economies may be enumerated as follows —

(1) Costs due to competitive advertisement may be avoided. Bulk of the expenditure on advertisement incurred by a concern is on attracting a customer from other competitors. This becomes unnecessary under pools, trusts and mergers. Moreover such costs on advertisement as are necessary to expand the common market are spread over a much larger output and are reduced to the minimum per unit of output even though they may be quite large absolutely.

(2) Cross-freights are saved. Instead of each unit sending its goods to every part of the country wide or even world wide market, the unified controlling agency allocates the output of each unit to the region of its own location. The costs on carriage of finished goods are thus greatly avoided. Similar result follows when market is divided by regions among different units without actually pooling the whole output for marketing by a central agency. In the present

situation of transport scarcity in India such pooling arrangements are of the greatest significance.

(3) Wastes of over-production are also avoided. The larger the output controlled by a single agency the easier it becomes to adjust such output to the changes in demand. This is very well illustrated by the way in which manufacturers of today are able to reduce output when necessary and to maintain prices while the millions of cultivators, each producing a very small part of the total output, are unable to do this and a glut of agricultural produce and abnormally low prices continue for years as they did during the great trade depression of the thirties.

(4) There are of course other economies secured in the process of integration such as those in purchasing of machinery and materials in experimenting and research and in acquiring capital in adequate quantities at lower rates of interest due to better financial standing and a larger concern controlling several big productive units. There is also greater scope on that account for the employment of more specialized skill and machinery.

Causes of Combinations.

The growth of large-scale production has given rise to the phenomenon of industrial combinations. As the size of the productive unit in any industry increases the number of such units decreases. Thus millions of handloom weavers are replaced by a few hundred big cotton mills, which in its turn makes some sort of combination both necessary and easy. Competition among a small number of big powerful units becomes deadly, over-production results of course in the sense that the total output from time to time increases so much as to lower the price below cost and to cause losses to the owners, and then combination or at least agreement to restrict output and maintain price becomes easier among a small number of bigger factories than among millions of weavers scattered over a wide area. Thus the most important cause of combinations is the attempt to avoid the wastes of competition.

Secondly, there is the temptation to secure, the many economies of large scale management already described. Thirdly, integration of most of the big competing companies meeting the needs of a

given market leads to monopoly and the power it puts in the hands of the combination to raise price and make exceptional profits. This is a great evil of the combination movement, which has been examined in detail later *

Limitations of large-scale production.

Large scale production secures, as we have seen, large economies in costs. Yet it has its limitations. One such limitation arises from the extent of the market available for disposing of the output. Once the needs of the whole market have been met further expansion of output is not possible. *Again* where the market is limited for any reason such as it is in the case of tailored garments the scale of production is essentially small. *Thirdly*, the scope of using specialized skill and machinery itself is very limited in certain lines of production. For example, agricultural processes are so varied and seasonal that the use of costly machinery is largely uneconomical except under exceptional conditions. *Last* but not the least there is the limitation of managing ability. Every concern, big or small, is ultimately directed by some one person most gifted for the task. As the scale of business expands he has to delegate more and more of his responsibility and details of supervision to his subordinates or associates until a stage is reached at which his faculties cannot cope with further expansion. It is this weakness of human talent which most probably explains the existence of hundreds of competing units in jute, cotton, and sugar manufacture and in, say, coal mining.

The small scale production

The limitations of large scale production and certain positive advantages enjoyed by the small unit, particularly in certain industries and trades, explain the persistence of small business units in the modern age of the big business. They defy the big enterprise even as the bullock cart defies the Railway and the motor truck in the carriage of goods over unmetalled roads and even over a part of the most modernized highways.

The small enterprise has its own economies like the big one.
(1) The advantage of the master's attention to detail helps to avoid certain wastes inherent in large business such as carelessness and

slackness of the employees in handling machines and materials. Again, because of this the work of the employees can be more easily coordinated and quick decisions can be taken to meet the changes in conditions of demand ; thus losses due to overproduction or sudden stoppage of work can be avoided (2) Closer contact between the master and workers makes it possible to evoke interest of the latter in their work and to increase efficiency. Thus better attention can be given to promotions and rewards according to efficiency and to avoid strikes and lock outs so common among big concerns (3) Attention can be given to the tastes of the individual customers as in the case of tailoring and painting, and thus even though the cost of production is higher, the customer is willing to pay it. Similar is the case with products wanted for their artistic designs such as Benares silkware. The machine made products cannot secure this and cannot therefore compete in such fields. (4) Greater suitability to businesses whose markets are by their nature limited to a small area such as shops doing repairs or supplying provisions and perishable goods. (5) Appreciable saving in the costs of transport and distribution of goods among consumers of the limited area served by a small unit.

Apart from these economies the small unit of production has certain decided social advantages such as independence of the workers, their living in small groups in healthy open air surroundings as against being crowded in slums in big industrial centres and of course encouragement to artistic talent. It is these that have appealed to leaders like Mahatma Gandhi, who have so strongly advocated the case of cottage industries.

There are certain economic factors which now favour the small business in holding ground in face of the big unit. Thus (1) Production and distribution of electrical energy, particularly hydro-electricity which is so cheap, enables the small workshop to have the advantage of mechanical power and to reduce costs of production, this is so well illustrated by the large number of small grinding mills scattered throughout a modern town (2) Growth of cooperation in buying materials, marketing the finished goods, improvement of methods of production and design of goods and in the establishment of 'finishing' trades secures to the small producers of a locality many of the economies of their larger competitors, (3) Concentration of a number of

artisans in a city or locality such as silk weavers of Benares, Durray weavers of Agra and Brassware makers of Moradabad, bring all the advantages of localisation of industries or external economies as they are called, to the small producer, (4) The danger from enemy bombing during a war is also likely to favour the smaller unit in the future. After all the loss from destruction even though occasional is itself an item of the cost of production over a long period of time

The small scale in agriculture

Except in new countries where cultivable land is still plentiful and population so sparse as to make wages exceptionally high, agriculture is essentially a small scale industry. This is due to the very limited scope for the use of specialized skill and machinery in agriculture. Industrial processes are all of a routine character and continuous—those of agriculture—sowing, watering, weeding and threshing—are different for each of the many crops grown on a farm and they are seasonal. If specialists and specialized machinery are employed, they will have to remain idle for a large part of the year and the costs per maund due to salaries and interest and depreciation of machinery employed will prove uneconomical. Again preparation of the ground and time of sowing, watering and reaping require careful attention by the experienced farmer. They cannot be entrusted to the labourers and naturally one man cannot attend to very large farms. Nor can he supervise personally varied processes extending over thousands of acres. Thousands of labourers engaged in routine and continuous processes in a factory extending over a few acres can be easily supervised, thousands of acres employing a few hundred labourers are difficult to supervise. Thus limitation imposed by the master entrepreneur's limited talent on the expansion in a productive unit appears sooner in agriculture than in industry or transport. Where, however, labour is scarce, land and capital plentiful as in new countries, large farms employing machinery prove relatively economical particularly due to specialisation in producing one or just a few crops by each farm e.g. wheat, cotton and maize in the U. S. A.

The principle or Law of Substitution.

This is a very fundamental principle of economic science and extends over the whole field of human activity. In the fewest words it means making *the best possible or the most economical use of any*

thing whose quantity at the disposal of an individual, group or community is limited. Thus it is applicable to time, energy, money, commodities, soil, minerals or other resources. Each of these things, being limited in quantity, tend or ought, to be put to the use which seems most profitable. And constant shifting of these resources from one use to the other, or what comes to the same thing, substitution of the most profitable for the less profitable use, is resorted to by each individual or group according to its own lights.

A consumer wants to get the maximum amount of satisfaction out of his given money income and tries to spend on various commodities and services he needs in the most judicious manner. If he finds that by spending an anna less on vegetables and more on sugar he will get more satisfaction he is sure to substitute sugar for vegetables. The same is true of present and future needs. As soon as he finds that a given part of his income will give more satisfaction in the future than in the present he stops expenditure and saves it for future use. The principle holds good in the use of a commodity as well as in the case of money. Thus if a person has 10 seers of cotton or 10 bruckefuls of water at his disposal he will try to use it for various alternative purposes in the most economical manner. He will constantly be thinking of economising by using a little more of cotton in clothes and a little less in quilts, or, say, a little less water in bathing and a little more in washing unless of course water is so plentiful as to make economising entirely unnecessary.

The producer is faced by the same problem in his sphere of work. With a given amount of capital at his disposal he tries to distribute it over land, labour and capital in the most profitable manner. The same holds true again in putting to different uses the land, buildings, machinery, materials and labour force acquired by him and in regard to alternative processes of manufacture and marketing. He has to choose the most effective combination of the factors of production the best use of each unit of these factors and of course the most economical of the alternative processes known to him. This necessarily means constant endeavour to substitute the more for the less economical alternative so as to reduce cost and maximize profit.

It may be noted that his outlay on any factor will tend to be extended to the point of the margin, that is, where outlay in money

is just balanced by the money value of the output yielded by such outlay. And again the producturty of each unit of outlay at the margin in every factor ought to be equal. If this is not the case, withdrawing of resources from the less paying and their employment in the more paying lines will be profitable. It follows that maximum profit is secured when the marginal return to money, outlay on each factor is equal. This is known as the *Law of Equi marginal Utility*, which is a corollary of the principle of substitution and may be illustrated by the following table —

Units of outlay	Yield in units of satisfaction or output					
	A	B	C	D	E	F
1st	10	9	8	7	6	5
2nd	9	8	7	6	5	4
3rd	8	7	6	5	4	3
4th	7	6	5	4	3	2
5th	6	5	4	3	2	1

In this table the first column shows the units of money income, say, annas spent over a number of commodities, say, food, cloth, house room, tea, cinema and travel denoted by A, B, C, D, E and F, yielding differing units of satisfaction. In the case of a producer the units of outlay may represent, say, Rs 1000 applied on various types of land, labour and capital, each unit yielding output in maunds. In both cases we find the yield *diminishing* as we spend more units of income or capital on the same commodity or factor or on other less important commodities or factors. This is based on the law of diminishing utility in the case of a consumer and on the law of diminishing returns or productivity in the case of a producer. The table makes it clear that maximum satisfaction or output is obtained when outlay of a given number of units is so arranged as to make the return at the margin equal in each case. Thus if a person has, say, 6 annas to spend he must spend three annas on A, two annas on B and one anna on C to get maximum satisfaction, which is here 52 units.

Expenditure in any other manner will bring less than 52 units of satisfaction. It is, of course, evident that the marginal utility of income is equal in the first case—the marginal or last anna spent on A, B and C bringing a satisfaction of 8 units. We shall arrive at the same result if Rs. 6000 are to be applied in production on A, B and C or, say, land, labour and machinery, that is, the output will be maximum when three units or Rs 3000 are applied over land, two units over labour and one unit over Capital.

Scientific Management.

In their search for economy in production costs and increase of output per man per day industrial leaders have undertaken from time to time study of the productive processes in a most scientific manner and have evolved many principles that have been of great benefit to production in its varied branches

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Scientific Management is one of such principles, rationalisation and economic planning are its extensions over wider fields. Scientific management may refer to one particular unit of production, say a cotton mill. Rationalisation is applying scientific economisation to the whole of an industry viz, all the cotton mills of a region or country, economic planning is reorganisation of the whole of the economic life of a nation on most economic lines by rationalising all the rationalised industries—mining, manufactures, agriculture and transport

Scientific management consists in evolving by the management of the most efficient methods of doing every bit of the productive processes in a factory—methods that will eliminate all waste of effort, machinery and materials, increase the output per worker to the maximum possible and reduce the cost of production per unit of output to the minimum. A scientific study is made of (a) the minutest *motions* of a worker's body, hand, feet and finger necessary in performing an industrial process, say, spinning, in all the alternative ways (b) the *time* taken and the *fatigue* caused by each alternative method. The best method of each process is then evolved (one that causes the least fatigue and takes the shortest possible time to perform the given task), standardised and adopted for continuous operation, neither the workers nor foremen being allowed any choice to vary the process. Thus the

planning department of the factory decides in advance how and in what actual sequence each of the innumerable tasks is to be performed, how much output is to be produced and in what time. Material and machines are provided in appropriate place and manner and employees are given proper inducements to secure their cooperation in the drive for economy in cost. There is not the least doubt about scientific management benefiting the workers and the consumers as well as the management.

Rationalization.

Rationalization of industry originated in Germany after the World War I. It consists in evolving and adopting methods of production and organisation "designed to secure the minimum waste of either effort or material (or power). They include the scientific organisation of labour, standardization of both material and products, simplification of processes, and improvement in systems of transport and marketing". The objects are to increase output, improve conditions of labour and reduce costs of production and prices. This is, of course, done by (1) reducing the variety of patterns of goods produced by the industry and the design, manufacture, use and replacement of standardized machine parts, (2) avoiding waste of raw materials and power, (3) simplifying the distribution of goods, avoiding unnecessary transport, burdensome financial charges and useless interposition of middlemen. Rationalization is thus expected to "secure to the community greater stability and a higher standard in the conditions of life, to the consumer lower prices and goods more carefully adapted to general requirements, to the various classes of producers higher and steadier remuneration to be equitably distributed among them."

As already indicated rationalization is an attempt to extend the principles of *scientific management* to the whole of an industry. For this purpose cooperation among all the units of an industry is necessary and unified control is secured through some form of association or combination. Banks and even the state extend assistance. Both are interested in the prosperity of an industry, the former as financiers and the latter as guardians of the interests of employees, consumers and employers as well. Of course the state tries to protect the interests of the workers and consumers by regulating wages and prices so as to prevent the evils of monopoly arising through rationalization.

Attempts at rationalization may be traced in India since 1936 almost all the cement companies then operating in India amalgamated into the Associated Cement Co of India Ltd. Later as other cement Companies like the Dalmia Cement Co appeared they formed the Cement Marketing Co. so as to avoid wastes of competition and unnecessary transport charges. Formation of the Indian Sugar Syndicate by all the United Provinces and Bihar Sugar Factories with Government blessings is another attempt to regulate output and avoid wasteful methods of production and transport. The Governments of the U.P. and Bihar regulate wages, prices of sugarcane paid to the growers and the prices of sugar charged to the consumers. During and since the end of the War the state has been trying in some way to rationalize cotton industry among others by reducing variety of cloth to be produced so as to increase the output to meet scarcity. Industry itself is represented on the Textile Control Commission so as to secure its cooperation in reducing waste and maximizing output.

Planning.

Planning denotes organization of the whole of the economic machinery of a nation on a rationalistic basis so as to make the best possible use of the country's resources in land, labour and capital. It tends to all the industries, including mining, agriculture, forestry, banking, transport and distribution of goods. A central planning and directing machinery is set up, divided into convenient sections, to take stock of all the resources available—both existing and potential—and the needs of the community considered essential.

Targets to be reached in the production of goods in each line—minerals, raw materials, food and manufactures—are fixed and then labour, capital and materials are directed into the different industries according to plans already drawn up, reducing the number of factories here and increasing them there. Under an unplanned or free economy such flow is said to be haphazard leading to plenty here and scarcity there and means much national waste. Under a national plan this is avoided.

Much interest and enthusiasm has been evinced in planning in India recently both by private agencies like the Congress and public authorities. And although comprehensive planning has not yet been

possible due to paucity of statistical data and experience and to the vastness of the problem, we already find enough state initiative projecting hydro electric, transport and cement and steel manufacturing schemes under its own ownership and management. Direction of private enterprise is also in evidence in the shape of control over new capital issues and licensing of new factories.

Planned economy has evident advantages over the unplanned or free economy. The former, if properly planned and executed, avoids wastes of capital, labour and materials, reduces alternating phenomena of over-production and under production leading to occasional industrial, commercial and speculative boom depressions and financial crises, reduced also distress and misery frequently caused by widespread unemployment resulting from trade depressions, and of course harnesses all the available natural resources of the country, some of which are bound to remain unexploited by private enterprise when left to itself if only because projects of immediate profit are lacking or capital cost is too heavy. There are, however, certain disadvantages inherent in the system. The consumer's choice is restricted and private initiative and enterprise discouraged by the ultimate decision of the variety, quality and quantity of goods to be produced resting with a central authority. And the consequences of wrong planning and failure of enterprise falls on the community as a whole and not on private individuals or companies as under free economy.

Planning and also execution of the schemes planned may be undertaken either by the state itself or it may be left to private enterprise directed by the central authority. Thus in Communist Russia all planning is directly under the state. In Germany and Italy under Fascist regimes and also in democratic countries during the War there was much of planning of production to prepare for war or to fight it successfully. In these countries most of the productive units remained under private ownership and management but thoroughly under central state control as regards the kinds, quality and quantities of goods and services to be produced and distributed. Some of the industries have of course remained directly under state management.

CHAPTER X

Forms of Business Enterprise

Efficiency of a productive establishment is to be judged by the extent to which it can reduce costs and cheapen the goods for the consumers without of course at the same time overstraining the workers and damaging their health by unduly long hours of unreasonably tiring work. One of the factors which affects efficiency is the form of enterprise, which is significant for the motive force it applies for promoting efficiency. An Enterprise may be (1) Private Capitalistic (2) Public or State, and (3) Co operative

Private Enterprise denotes a business unit organised by an individual or by a number of individuals jointly for producing goods or services for sale with the object of making a profit. It may be in the form of (a) a sole trader or single entrepreneur (b) a partnership or firm, consisting of a few individuals who jointly supply capital and run the business, sharing profits and losses in agreed proportions or (3) a joint-stock company, consisting of hundreds or thousands of shareholders who supply the capital and entrust management to an elected executive committee called the Board of Directors. All these three forms of enterprise are called private or capitalistic because they are run for the private profit of the person or persons who supply capital—the capitalists. They are to be distinguished from (a) *public* or *state* enterprise, such as a State Railway or Water Works whose capital is supplied by the state or a public authority like the Municipality and the profit, if any, accrues to the public as a whole and not to any particular individual or group, and from (b) *co-operative enterprise* like a consumer's cooperative store, whose capital is supplied by a number of persons for producing for, or selling goods to, themselves and the profit is shared by them on the basis of purchases and not capital supplied. The distinctive feature of co-operative enterprise is that the capitalists are also the customers, so that here there is no motive for making profits at the expense of

others—the customers—as in private enterprise. Each of these forms has its own merits and drawbacks from the point of view of efficiency and promotion of public welfare.

All the three forms of private enterprise possess the advantage of strong motivation to reduce the costs to the lowest so as to withstand competition from rivals and to make the largest possible profits. As all the profit accrues to the individual organiser or to the group of organisers, they work to the best of their ability, bending their physical and mental energies to the utmost. The best machines, the most industrious and skilled workers and the best available processes and methods of production, transport and marketing, are employed, and constant thought is devoted to secure economy here and avoid waste there.

Among the three forms of private enterprise the *single entrepreneur* has the advantage of taking the initiative and quick decisions unhampered by the need for consultation as in the case of a partnership or sanction of the shareholders as in a joint-stock company. He has also the strongest motivation as every pie of the profit accrues to him while every pie of the loss falls on him. In both partnerships and companies profits and losses are shared among a number of persons. *Partnerships*, however, have the advantage of securing capital and business ability of a number of persons and are therefore more suited to bigger businesses which require larger capital and involve greater risks, which a single individual may not be able to supply.

Joint-stock enterprise, denoting companies consisting of a large number of shareholders registered under company law, are now a-days very common, particularly in running big businesses, because they possess certain very definite advantages over both individual and partnership organisations. Important features which distinguish a company or corporation from an individual trader and partnership and the economic advantages which accrue from them may be summarised as follows —

(1) Registration under the Company Law This necessitates filing by a company with the Registrar of joint stock companies *at the very start (a)* several documents showing the amount of capital

raised and the objects for which it has been formed and then (b) annually copies of balance sheet or financial statement of affairs and the register of members. A company thus has to disclose compulsorily certain information which is made available to the shareholders and others interested in it on payment of a small fee and it has to work according to the provisions of the Company law designed to protect the interests of its shareholders and creditors.

(2) Limited Liability. Registration secures to the company the advantage of limited liability, which means that a shareholder's liability becomes limited to the value of the share or shares taken by him. Even if the company makes huge losses and fails the shareholder cannot be called upon to pay more than such value when as a sole trader or as a partner he has to satisfy the creditors of the concern to the last pie of his private estate. Thus both registration and limited liability encourage people to take up the risks of investment of their savings even though they have little control over management. This benefits both the shareholders and the community as a whole, the former getting remunerative employment for their idle savings and the latter the benefit of such savings in the shape of economical production by large establishments.

(3) Shares and Debentures Requisite amount of Capital is attracted against several classes of securities carrying different degrees of risks and rewards so as to interest all classes of investors. Important types of securities issued by a company are —

(a) Preference shares These are entitled to a fixed rate of profit enjoying priority both in respect of annual profits and capital on liquidation. They have greater protection than other classes of shares and naturally they have no claim on profits howsoever large these may be beyond the relatively low rate fixed at the start. They are popular with cautious investors.

(b) Ordinary shares are entitled to get all the distributable profit remaining after paying a fixed rate to the holders of preference shares and of course going without any profit if it is not enough or just enough to pay the fixed rate on preference shares.

(c) Deferred shares. Some companies issue deferred or founders shares also. In that case ordinary shares are made entitled

to a fixed rate, of course some what higher than that fixed on preference shares, and the whole of the remaining profit goes to the holders of the deferred shares. Thus these last carry the greatest risk, going without any profit for years in periods of bad trade and getting very fat dividends in prosperous years. Naturally they are liked by the most speculative type of investor.

(d) Debentures Some companies try to attract capital from investors who will not purchase even preference shares by raising long-term loans against *debentures* or *bonds* promising to repay the capital after, say, ten or twenty years and a fixed rate of interest annually until retirement whether there is any profit made or not. Debenture holders are creditors of the company while the holders of the preference, ordinary and deferred shares, are proprietors. As creditors the former are entitled to get their annual interest and the whole of the capital on liquidation before the latter can claim anything. Naturally the fixed rate of interest payable on debentures is always lower than the fixed rate of dividend payable on preference shares.

(4) Transferability of shares Shares can easily be sold in the market. This enables a person to realize cash for his shares when necessary and to carry the risk only so long as he likes it.

(5) Perpetual life. Death, lunacy or bankruptcy of one or more shareholders does not affect the life of the company unlike partnerships which are automatically dissolved in such a case. Thus the business of a company goes on uninterruptedly irrespective of changes in the personnel of the members or shareholders.

The joint stock form of enterprise has made it possible for big and risky businesses to be taken up. The risks are spread over a large number of persons while ownership and profits of enterprises get widely diffused, promoting equality in the distribution of wealth. The opportunities of profitable investment of savings, with strict limitation of risk to the value of shares held by each shareholder, encourages both saving and investment and increases the productive power of the community. It enables capable men with real business talent to get together large amounts of capital and to find field for the employment of their creative powers to the benefit of the community as a whole.

But, of course, joint stock enterprise has its *drawbacks*. Separation of ownership and control creates, on the one hand, opportunities for fraud and recklessness in taking risks by the directors and managers, and on the other, it hampers initiative and quick decision to the extent that salaried managers have to work under the control of a board that is not always in session, while the directors themselves have to obtain at least formal approval of their important decisions from general meetings of the shareholders that have to be called from time to time.

STATE ENTERPRISE

Public or state enterprise is represented by business undertakings like the important Indian Railways and the Post office, which are owned and managed by the State. Recently the Reserve Bank of India has also been brought under state ownership and control, the process having been termed 'nationalisation'. There is now a-days great demand for nationalizing industries, including mining, banking and transport. This is due to certain disadvantages said to be inherent in private enterprise and certain positive merits possessed by public or state undertakings.

State enterprise has no doubt certain positive advantages. (1) The state is able to raise capital at a lower rate than a private concern because of the greater confidence enjoyed by the state. (2) It can also command managing ability and services of engineers and workers at a lower salary because prestige and security attaching to state service are greater and employees are prepared to serve a state concern at lower salaries. Both these facts tend to lower the cost of production. (3) Then there is the advantage of the prices charged for goods and services produced by a state undertaking and wages paid to employees being more reasonable and benefiting the consumer and the worker. A state concern is not run primarily for profit earning as is the case with a private business. (4) Any profit that is made, big or small, accrues to the community as a whole. It forms part of public revenues and either reduces the tax burden or increases the services like education and medical aid available to the citizens. (5) And state enterprise obviates the wastes resulting from competition among a number of independent units and saves the consumers and workers from the high prices and low wages prevailing under monopoly when competing units combine under a single management.

But state enterprise is not without its drawbacks and some economists consider these serious enough to limit it to certain specified lines of production. (1) *Lack of initiative*. The absence of competition and the profit motive makes the state authority indifferent to initiating new schemes and improving methods of production so as to increase efficiency. The private enterpriser is, on the other hand, always on the look out for undertaking new lines of production and to reduce costs so as to increase his own profits and to face his competitors. (2) *Recklessness*. On the otherhand, some public authorities are in their enthusiasm apt to undertake schemes which are almost certain to end in failure. The burden of losses does not fall on the popular representatives or the state officials who start the concern but upon the tax payers, who are ultimately responsible for repayment of capital borrowed for the purpose and lost. (3) *Inefficiency and faulty accounting*. Members of state authorities like municipal committees are not elected for their business ability and are almost certain to prove inefficient in running an electricity supply undertaking as compared to the directors of a private company. Again such authorities have many schemes under their control and may sometimes charge expenses on repairs of track of a business concern like tramways to roads with a view to cover up losses due to inefficiency of management. No private concern can do this or run at a loss for any length of time. (4) Lastly, there is the great chance of party politics and corruption creeping into the running of a state undertaking. For example, state railways or banks may be made to favour interests of individuals or groups related to or bribing the party in power. A private undertaking being interested in profit will always serve whosoever pays the price or charge fixed by the management.

A method has been devised to avoid some of these disadvantages of state enterprise and that is to entrust management to an independent Board or Commission consisting of persons chosen for their business ability. Thus the Indian State Railways are managed by the Railway Board, whose members are chosen from amongst successful engineers and managers of the different lines and left free to initiate and run the Railways on business lines. Yet, there always remains the chance of interference by political parties and the absence of that strong motivation to efficiency which is provided by the spur of profit. Consequently it is generally agreed that state should run.

CHAPTER VI
COOPERATIVE ENTERPRISE

mer's Cooperation , (2) Producer's Cooperation , and (3) Cooperative Credit.

Consumers' or Distributive Cooperation.

A number of persons employed in a factory or living together in a mohalla or village may form a Consumer's Cooperative Society or Store for purchasing the things they need such as food, cloth etc at wholesale rates and selling these to themselves at retail prices, thus eliminating the retail dealer and his profits. Capital for purchasing and stocking the goods is found by the members taking shares of the society and depositing their savings on which they get interest. Deposits are also accepted from non members and loans taken from cooperative or ordinary commercial banks at usual rates of interest. In course of time reserves are built up out of yearly profits, thereby reducing to the minimum the need for outside loans. Management of the store is honorary, provided by a managing committee elected annually by all the members, though detailed business of purchasing, selling and account keeping is entrusted to paid employees.

Usually the goods are sold to the members for *Cash* at *market price* , credit sales are prohibited to discourage unnecessary spending. A good part of the profit (at least 25% in India) made each year is reserved or kept in the store itself , a part is utilized in paying a fixed rate of interest on share capital and the remainder distributed as *purchase dividend*, that is, according to the purchases made by each member during the year irrespective of the capital subscribed by him. Thus if a member, who has purchased goods worth Rs. 100/- , gets Rs. 6/- as purchase dividend, another who has purchased Rs. 1,000/- worth of goods will get Rs. 60/-. This is just to prevent the store becoming a capitalistic or profit hunting concern. For the same reason no one member is usually allowed to hold more than one-tenth or one fifth of the share capital and each member has one vote irrespective of the number of shares he holds. Almost all of these principles or rules are common to all forms of cooperation.

Consumer's cooperation originated in England in 1844 among weavers of Rochdale now famous as "Rochdale Pioneers" It has since seen great expansion in that country and also in other countries, including India. One most striking development has been the emergence of wholesale societies or federations of a number of local consu-

ners' stores, which stand in the same relation to the wholesale society as individual members to their local store in respect of share capital, deposits, management, purchases and distribution of profits. Thus the wholesale society has for its members or shareholders the local cooperative stores, which purchase their requirements from the wholesale society and receive purchase dividend according to their purchases. The delegates sent by each store elect the managing committee of the wholesale society. As the quantity of goods needed by all the individual members of all the federating local societies or stores increases the wholesale societies begin to undertake direct manufacture, import and even transport of such goods. Thus the English Wholesale Society (C. W. S.) owns its own tea plantations in Ceylon, does much of its own banking business and imports foreign goods in its own ships besides manufacturing certain goods in its own factories. Provincial federations of consumers' stores have also been formed in the United Provinces, Madras and some of the other Provinces of India.

Consumer's Cooperation possesses many advantages over the private retail shop as a source of supply of the consumer's needs.

- (1) The most important is the *elimination of the middleman's profit*, which accrues to the consumers themselves in the shape of purchase dividend. Gradually, as we have seen, the profits of the retail and wholesale dealers, and of the manufacturers and importers are also annexed by the Consumer's society.
- (2) *Quality of the goods improves*. The store belongs to the customers themselves. Goods are purchased from others or produced directly for use of the members and *not for profit* by sale to others. This is particularly important in the case of goods like milk and ghee, in which adulteration is not easy to detect.
- (3) *Cost of production and therefore price of the goods is lowered*. As members' custom is assured there is no need to provide costly packing or window dressing of the shop, which the private producer and shop keeper have to do to attract customers.
- (4) As in other types of cooperation habits of thrift, self help and fellow feeling are encouraged and the spirit of rivalry, jealousy and competition is suppressed. All this makes not only for economic prosperity and independence but also for a better type of citizen, who is not only more prosperous but also alive to his duties.

Consumer's Cooperation has not been much of a success in India except in the Province of Madras and in some of the other Provinces during and since World War II. The chief reasons are (a) Comparative indifference of the Provincial Cooperative Departments which have tended to concentrate on developing Cooperative credit in the past at any rate ; (b) great variations in the incomes, status and consumption requirements of the residents of cities and even villages. Some are meat eaters, others vegetarians, then there are rice and wheat eaters, (c) Little margin between wholesale and retail prices of food, cloth, ghee and other common needs of the people. Competition among retailers with their low standard of living cuts the profit to the minimum and too little margin is left for purchase dividend and for the Consumer's store to prove attractive, (4) There is then the proverbial ignorance of the masses and lack of enthusiasm and unselfishness among the classes to carry the message and make success of the cooperative idea.

However, the movement has succeeded among educated lower middle classes where they live in big groups and close together such as in big Railway and Telegraph Centres in Ajmer, Tundla and Agra. The local officers help by providing free office and store room, direction and management and facilities of collecting share money, deposits and arrears of dues through deduction from salary.

Producer's Cooperation.

Cooperation among producers has developed along two distinctive lines

(A) **Purchase or Supply** societies and *sale or marketing societies* formed by a number of *independent* artisans such as weavers living in a particular locality. With capital subscribed by the members, supplemented by their deposits and outside loans, raw materials and tools needed by the members are purchased at wholesale rates and supplied to the members at reasonable prices by the purchase or supply society. The sale society, on its part, undertakes marketing of the products of the members on a cooperative basis. In both cases the profit of the middleman, who supplies materials or markets the products, is eliminated. Both the functions may of course be combined under a Purchase and Sale society, which may also undertake introduction of better tools and methods of production, new and more

artistic designs of products and finishing trades such as bleaching and dying of cloth produced by members. Thus, apart from thrift and spirit of mutual assistance inculcated by this form of cooperation, the incomes of the members are increased in so many ways—by the elimination of the profits of middlemen by improving quality and quantity of output of each member and by getting better prices for finished goods through cooperative finishing and marketing.

There are a number of weavers' societies in the United Provinces working on these lines, particularly in Etawah, Benares and Sandila in Hardoi district. Federations of local societies are also formed to coordinate their activities. The Provincial Government of the United Provinces is extending assistance by providing (a) marketing facilities through the U. P. Handicrafts Emporium, Lucknow, and its many branches and (b) technical education through a number of weaving, leather working and carpentry schools run by the Department of Industries. Credit facilities to the local purchase and marketing societies and to their federation are extended by the cooperative central banks of the different districts.

(b) Cooperative production or worker's societies is the other form of cooperation found among producers. In the previous type, i. e. the Purchase and Sale society, the members remain independent producers, the help of the society being available only in procuring materials and tools at reasonable prices and marketing of the product at advantageous terms. In a worker's society all the members join their labour and capital in a collective organisation, merging their separate entities into it, using borrowed capital where necessary, thus in a factory or workshop run on these lines the labourers are themselves the owners, managers and foremen are elected by them, the outside employer is eliminated and his profits accrue to the workers, usually distributed not according to capital subscribed but work put in and wages received during the year. Workers are both wages earners and entrepreneurs, receiving wages and profits.

This system of production has many advantages and is on the face of it most attractive. (1) It eliminates the capitalist employer, his bossing over the workers and of course his 'exploitation'. (2) It avoids the wastes due to careless handling of machinery and materials and increases efficiency of the workers in so far as the latter become

ersonally interested in economy in costs, increase of output and profits. (3) Friction between employers and employees altogether disappears and with it vanish strikes and lock outs, cessation of production and loss to labour as well as consumers resulting therefrom. b) Both ownership and control of business passes to the workers, bringing in the fullest democracy in the economic field. In short, cooperative production or productive cooperation, whatever term is used for the system, does away at once with all the evils of private capitalistic enterprise and the weaknesses of state undertakings arising from absence of strong motivation to effort, economy and risk bearing.

Unfortunately the system suffers from certain fatal drawbacks in the field of large-scale business at any rate. (1) Firstly, the workers are not able to command enough capital, costly machinery and highly paid managerial skill so necessary for successful running of a big factory. (2) For the same reason they are not able to undertake huge risks inherent in large business. (3) Absence of discipline is another great drawback. The elected managers and foremen are apt to be indulgent towards their masters, and even if they show strictness they are most likely to be disobeyed. The manual labourers both skilled and unskilled-generally underrate the value of intellectual work of the managers. Their own mental equipment is too low to be able to provide wise direction and control of the elected executives.

Thus it is that cooperative production has failed to make much headway in any country in the field of large-scale manufacture. It has, however, succeeded in certain lines of production where capital is not so important as skill and reliability of the workers, e.g goldsmithing. In England there are found many workers' societies engaged in boot making, printing and a few other trades in which capital requirements are not large and the consumers societies help them with capital and custom. In India such societies are almost non-existent, perhaps because of the absence of a strong consumers' movement and the relative ignorance and poverty of the Indian workers.

Agricultural Cooperation

The needs of the agricultural and industrial producer are common in many respects. The farmer also stands to benefit from

supply of his needs for seed, manure and implements and marketing of his products on a cooperative basis. Thus agricultural supply and sale societies are as necessary as their counterparts in the industrial field. The same holds true for cooperative credit examined in the next section. And like the cooperative production of workers' society run as a collective organisation there is developing in agriculture what is called cooperative or collective farming. It is unnecessary to describe in detail the organisation, functions and benefits of various types of agricultural cooperative societies, they are all similar to those of industrial cooperatives. In fact, collective or cooperative farming, requiring less of specialized capital and managing ability than large scale cooperative production, is likely to be more successful than the latter has been.

Cooperative credit

Both the artisan or the small industrialist and the farmer stand in constant need of borrowing money to carry on their respective operations. The sums they borrow are, however, too small and their credit too low for a modern bank to provide their credit needs. The costs of running even a small bank branch in a village will be too high apart from the high risks which cannot be borne by a commercial bank. It is this which has long left the whole field of financing agriculturists and artisans to the money lender.

Now the city money lender's terms are not very much less harsh than those of the village money lender. Both of them have been universally condemned by public opinion. Yet there are very solid economic reasons for the high rates of interest they charge. The sums lent being small the costs of lending, collection and account keeping per, say, Rs. 100/- are large—much larger than similar costs of a commercial bank. And then there is the heavy risk of lending to a tenant farmer, whose crops are precarious and who has no tangible security to offer except his promise to repay. There are many bad debts and much of the excessive interest charged is really insurance premium against the risk. There are other contributory causes. The demand for loans in the village is much greater than the funds of the local money lender or lenders available for lending. There is no agency to collect and mobilize village savings, while the larger resources of the city banks and urban people cannot flow to the village,

in fact they cannot be made available even to the city weavers or other artisans if only because of want of proper security

The Cooperative Credit Society

The cooperative credit society properly organized proves to be the ideal solution of this urgent problem of credit supply. It removes the basic economic causes of the scarce supply of funds and the high rates of interest. Ten or more persons living in a village or city may form a society and get it registered under the Cooperative Societies Act of the Province. All of them become jointly and severally responsible for the debts of the society; their credit is thus pooled and becomes stronger than that of any single member. The funds are raised through admission fees and share capital subscribed by the members, these are put at a very low figure, say, Rs. 5/ and are made payable by instalments to enable the poorest person to become a member. The deposits are received from both members and non-members and a reasonable rate of interest paid on such deposits. Loans are also taken from district or central cooperative banks located in the district town. In the beginning such loans naturally form the bulk of the funds lent to the members. Because of the collective responsibility of all the members for the debts, local deposits and loans from central banks are obtained at a much lower rate than the rate charged to individual borrowers. The rate charged from borrowing members is higher than that paid on deposits and loans taken by the society. This means profits, which, instead of being distributed, are usually allowed to accumulate as reserve and in course of time become large enough to reduce the amounts borrowed from outside. Loans are granted to members only and usually two or more of them are asked to sign the promissory note or bond so as to reduce the risk of default.

Management is honorary provided by an elected panchayat or committee, though because of illiteracy of the members a paid secretary to keep the records and accounts is employed by a number of contiguous societies and his salary shared among them. Loans are made for short periods not exceeding, say, two years for (a) Productive purposes such as purchase of seed, manure, implements and bullocks and for payment of rent and wages. (b) also for consumption needs, e g , for purchasing food, cloth and other requirements between the period of sowing and harvesting of crops. They are collected with interest

when the harvest is ready—in full if the loan is small and by instalments spread over a number of harvests if the loan amount is larger and beyond the capacity of the borrower to repay in one lump sum. Arrears and defaults are discouraged by all good societies in the interest of the borrower himself as well as of the society. The society provides 'controlled credit' as distinguished from indiscriminate credit extended by the money lender, who goes on lending so long as he feels his funds are secure. Facile credit, in the sense of credit easily obtainable, proves to be an evil in itself, encouraging as it does extravagance and growth of indebtedness. It is this which leads to a good percentage of our farmers being born in debt, and of course most of them live and die in debt. The society, on the other hand, will not lend until the loan is really necessary and then sees to it that the borrowed money is utilised for the right purpose and repaid at the next harvest according to the terms of the loan. In this not only the Panchayat but all the members cooperate, because default by the borrower is against the interests of all, saddled as they all are with the bad debts of each. In fact, all the members thus become interested in each other's prosperity instead of in adversity as they usually are through mutual jealousies and animosities.

The society not only extends *adequate credit at reasonable rates*; it helps the members in many other ways to improve their economic status. It may decide their disputes and prevent litigation, it discourages extravagance and promotes thrift to some extent by compulsion and by providing deposit facilities, it tries to introduce better breeds of cattle and improved crops, implements and methods of cultivation with part of its profits it may provide education, medical aid and sanitation, in short it proves an engine of all round progress. It helps to increase the incomes of its members and to reduce their expenditure on unnecessary items such as intoxicants and ceremonies.

It is able to reduce the rate of interest charged from members in the following manner. It reduces the risks of rural loans by strengthening the credit of the members through joint liability and 'controlled credit', it increases the supply of loanable funds by encouraging both the power and the will to save and by drawing upon city funds through the district cooperative banks. Costs of lending

and collection are reduced through honorary management and supervision of loan operations.

Agricultural and urban credit societies

Agricultural or rural and urban societies are largely similar in their aims, organisation, and functions. Yet there are some differences arising from the differences in the nature and needs of rural and urban borrowers. The two types of credit societies in India have been largely modelled on their prototypes in Germany—the *Raiffeisen* or Rural bank and *Schulze-Delbuech* or Urban banks. In the rural credit society liability of the members is usually *unlimited*, that is, every member is liable to meet the debts of the society to the last pie of his property, in the urban bank liability of each member is limited to the value of the share or shares taken by him or a certain multiple of such value. The area of operations of a rural society is limited to a village or a group of small adjacent villages, the jurisdiction of an urban society may extend over the whole of a big city and the number of members may run into thousands. In a rural society value of each share is smaller, loans are made for a longer period, profits are largely indivisible, business is simpler and management more honorary as compared to an urban society.

The greater poverty and risk of lending in villages make it necessary to keep the liability of the members unlimited, and this in its turn necessitates a small number of members living close together and knowing each other well. Because of the greater risk and need for more funds profits of the rural society are reserved, in an urban society plenty of funds are available and bulk of the profits is therefore distributed. Farmers require longer term loans granted and collected at fixed periods, the artisans need short term loans and also repay them throughout the year. Thus the banking operations of the rural society are simple and few, those of the urban bank are complicated and continuous. Naturally the urban bank has to employ a large number of paid employees.

Multi-purpose societies or Village banks

For a long time the Provincial Cooperative Departments and Registrars favoured single purpose societies and emphasized the

formation of credit societies, so that a village had either only a credit society or a number of separate societies for credit, supply, marketing and better farming or cattle breeding. Opinion now has swung to the opposite view, that is, towards one society in each village undertaking all the activities needed to improve the economic condition of the villager. It will grant credit, supply both production and consumption needs of the members and store and market their produce. In short it will tackle all the sides of the life of the Indian farmer to whom agriculture is not a business but his whole life. The Village bank will provide not only credit but better farming, better business and better living.

The multi purpose society, or the Village Bank as it is popularly called, has certain decided advantages over the ordinary credit society

- (1) It is not possible to find competent panches for a number of different societies among the illiterate villagers and in any case the attention of the panches is apt to become narrow or divided
- (2) Mere granting of credit cannot improve the economic position of a farmer unless his income is increased through better farming and improved marketing
- (3) Credit, granted by a society without the produce of the borrower coming into its hands for marketing, is apt to become frozen and to lead to default

Thus under the lead given by the Reserve Bank of India in its bulletin "the Village Bank" and by Dr. Katju when he was minister in the United Provinces, old credit societies are being converted into village banks and new societies when formed are also of the multi purpose type

Central Societies (District and Provincial bank)

The village and urban banks are known as *primary societies*, having for their members individual farmers or artisans. These *primaries* usually form for certain purposes unions or federations, which thus have for their members these primary societies. Such federal unions are called *secondary* or *central* societies. In India we have two chief kinds of central credit societies

- (1) Central or District cooperative banks found in most of the district headquarter towns and in some of the Tehsil or Taluqa towns
- (2) Provincial or Apex banks, covering the whole of a Province

Both of them are usually of the *mixed type*, that is, have for their members both societies and individuals, their chief function is to finance or lend

money to their member societies. In the *purely cooperative type* of central societies individuals cannot become members.

The Central or District Cooperative Banks.

All the primary agricultural credit societies and urban banks of a district and also other types of cooperatives such as supply and marketing societies become members of the central bank of their district, each taking at least one share of the latter. In some cases the urban bank in a district town has been turned into a central bank of rural primaries. Persons having capital and managing ability and interested in co-operation are allowed to become shareholders just to harness their funds and talents in the service of the district bank, which raises its funds from shares, deposits by members and non members, reserves of profits and loans from Provincial Cooperative banks or joint stock banks of the town itself. Management is in the hands of directors elected by individuals and representatives of member societies.

Its functions and services to the primary societies are important. (1) It *balances* the funds of its member societies, that is, societies having surplus funds from time to time deposit them with the central bank, which lends them to those having a deficit. To some extent the same is done by a primary society, the deposits of more prosperous members are lent out to the needy ones. This is in itself a very useful service, helping to make the best use of the available funds possible. (2) It attracts the city funds in the shape of share capital and deposits and also from other banks and the Apex bank and makes these available to the rural societies in the form of loans. (3) It supervises and guides its member societies in their operations through its own officers and inspectors.

The Apex Banks

The Provincial Cooperative Banks have now been formed in all the important Provinces of India. Most of them are of the mixed type and have for their members the district central banks and individuals. They stand in the same relation to the central banks as the latter do to the primary societies. They *balance* the funds of the central banks and also grant them loans out of the funds raised from the central money market of the Province and from the Reserve Bank of India, which is always

willing to provide special facilities to the Apex or Provincial banks in granting loans and rediscounting bills already discounted by them or their central banks

Some people have suggested the formation of an All India Cooperative Bank, having for its members the various Provincial banks. This is now considered unnecessary as the function of such a bank is already being performed by the Reserve Bank of India.

Conflicts and their conciliation.

Both the consumers' and producers' branches of cooperation suffer from certain weaknesses and then there are certain points at which their interests clash. The consumers are as much interested in low cost of production and distribution as any private capitalist. A consumers' society—primary or wholesale—running a shop or factory is apt like the private owner to 'exploit' the employees by long hours and low wages. Capitalism and its evils are eliminated for the consumer but not for the worker. Even if the employees are themselves members of the consumers' society—they are of course encouraged to be so—their number is too small to have any appreciable weight in management against overwhelmingly large numbers of those members who are only consumers but not workers in their own productive or trading organisation. Of course the factory acts and other labour laws are applicable to the employees of a consumers' establishment, but the workers want something more—a hand in management and a share in profits. In management they are represented to the extent of their voting strength, their interest in profits may be secured through a proper scheme of profit sharing. Yet the usual disadvantages of the wage earner persist.

When the productive or distributive agency is organised not by the consumers but by the workers as under cooperative production, the disadvantage of the worker is transferred to the consumer. The organised workers as producers are as much interested in profit as the shareholders of a joint stock concern, i.e., in selling the worst quality at the highest possible price. Thus a consumers' factory exploits the workers, a producers' society exploits the consumers. The ideal solution would be a single organisation of the producers and consumers. But this is not wholly possible so long as groups of consumers do not produce all and only that which they themselves consume and a large part of

specialisation and its advantages are given up. However this conflict can be to some extent reconciled by the producing and consuming groups becoming members of each other's organisations or both merging in a single movement. Thus, for example, it may be possible to start a cooperative dairy of which each farmer supplying, and each consumer consuming, milk and other products are members. Profits of middlemen saved may then be distributed to the consumers as purchase dividend and to the farmers as supply dividend depending on the value of products consumed or supplied during a year. Such a dairy was started in Agra in 1937, it worked for about a year and then failed because of insufficiency of capital and lack of proper handling of a perishable product. An organisation covering all kinds of produce needed by the consumers of a town and supplied by the farmers of the surrounding villages can be set up on these lines. It may very well include the goods and services produced and supplied by the city consumers and needed by the village members.

Another clash occurs between the producers and consumers movements when productive and distributive establishments of the two organisations come into competition. Thus the farmers organised as producers may manufacture butter and grind corn and distribute them through their retail shops while the organised consumers may have their own establishments for both of these purposes. Conciliation has been somewhat successfully tried in Sweden by (1) the producers' movement agreeing to refrain from retailing dairy produce and meat and the consumers' organisation abstaining from operating dairies and slaughter houses and growing of agricultural produce (2) the consumers' movement giving preference in its purchases to agricultural produce supplied cooperatively by the farmers and the farmer producers' movement extending similar preference in its purchases of bran, cake and other products of factories operated by the consumers' wholesale society. This agreement is based on consumers' movement contracting its range of supply and producers' organisation keeping clear of retailing its own products. In short, the field of production and distribution has been divided between the two organisations on an agreed basis. This cooperation among cooperative organisations is a very healthy development and promises to do away with the conflicts that were otherwise inevitable.

CHAPTER XII

COST OF PRODUCTION AND PRICE

We have seen in the last few chapters some of the important factors that increase productive efficiency and reduce the cost of production of goods and services. It should, however, be noted that as students of economics we are interested in productive efficiency of any one factor of production or of a productive unit from a national or social point of view and not from the point of view of a particular labourer or entrepreneur. A reduction in costs does benefit the owner or owners of a business concern, but for our purpose it is the benefit of the community that is really significant. A reduction in the cost of producing a commodity reduces its price to the consumers under a competitive system of industry.

If the price remains above cost for any length of time, the extra profits induce the producers—old and new—to increase output, and this in turn brings down the price to the cost, in which we ought to include the remuneration of the organiser who provides capital, management and risk bearing. If, on the other hand, price in the market stands below cost of production, some of the producers at any rate stop producing and the reduced supply raises the price to the level of cost. Thus cost of production represents the *supply price*, which term simply denotes the price at which only the supply will be coming forward for sale. As we shall see presently the cost of production of a commodity may change from time to time and usually does change as the quantity produced increases or decreases. The cost of production as supply price is thus intimately related to the price paid by the consumer. The supply price of a given quantity of a commodity during a given period of time is the cost of production of that quantity during that period. If a larger or smaller quantity is to be produced or supplied or even if the same quantity is to be supplied within a longer or shorter period than usual both the cost of production and supply price may and usually do change.

Real and money costs of production

The cost of production of a commodity that represents its supply-price needs much analysis before it can be properly grasped because the term many denote many different things. First of all we must distinguish between *real cost* and *money cost* or *expenses* of production. *Real cost* denotes the amount of human effort needed to produce a commodity, including in this the past labour spent in producing machines and materials that help in giving such commodity the form in which it is put on the market. *Money cost* represents the actual expenses in terms of money incurred in producing the commodity. It may here be noted that real or labour cost of production of a commodity declines with every improvement in machinery and methods of production. It may, however, increase in the case of agricultural commodities or minerals as we have to take resort to poorer soils and deeper layers of mineral deposits. Again money cost may increase as real cost declines and vice versa. Thus we now use better machinery and methods in producing radio sets than we did before the war and yet because of the rise in money wages and prices of materials the money cost of producing radios is much higher than it was before the war started. It is also conceivable that money cost of extracting coal may fall in the future if prices of food and wages of labour decline even though the number of man and days needed to dig, lift and transport a ton of coal increases due to exhaustion of the richer mines situated nearer the industrial area. Price being value expressed in terms of money is manifestly related to money cost and not real cost.

Prime and supplementary costs

Money cost itself may refer to *aggregate cost* of a given output or the *cost per unit*. If 10,000 pairs of shoes produced in a shoe factory in a year cost in all Rs 1,00,000 the cost per pair is Rs 10. It is this cost per unit which has to do with the price of shoes in the market. But the money cost per pair is itself made up of so many items such as the prices of leather and nails, fuel used in driving machinery, wages of labourers, expenses of advertising, interest and depreciation on capital invested in the factory and salaries of managers and foremen. All these costs may be divided into two groups (a) *prime* and (b) *supplementary*.

Prime or direct cost of a pair of shoes is the cost of leather and other materials used in it plus wages paid to the labourers specifically for making it and of course any other expense that need not have been incurred if this pair were not manufactured. Prime cost thus includes all the expenses directly incurred over a unit, it is exactly *proportional* to the quantity of output. Thus if in manufacturing 10,000 pairs of shoes Rs 70,000 are spent over leather and other materials, fuel and wages, the prime cost of a pair of shoes is Rs 7/. It follows that if only 5,000 pairs are produced the total cost will be reduced to Rs 35,000, leaving the prime cost per pair at Rs 7/. But each of the 10,000 pairs produced must bear its share of remaining Rs 30,000 spent over rent, interest, depreciation, expenses on office and management and other *overhead* charges. This share works out to Rs 3/, which is termed *supplementary cost* or simply *on cost*. This part of the cost, it may be noted, is not *variable* or proportional to the output, it is more or less *fixed* and must be incurred whether a smaller or a larger quantity is produced. The managers and clerks cannot be dismissed, nor machinery sold out with a reduction in output. And the same staff and machinery can handle a larger output upto a point. Thus the essential characteristic of supplementary cost per unit is that it increases with a fall in output and diminishes with an increase in output.

The *total cost* of a pair of shoes is Rs 10, comprising Rs 7 as prime cost and Rs 3/ as supplementary cost. And the price obtained must cover this total cost *in the long run*. *In the short run*, that is, temporarily the price may be lower than Rs 10 per pair and still production may be continued in the hope of better times. A factory is not dismantled and staff dismissed immediately price falls below total cost per unit of output. Thus a large number of sugar mills in India continued their operations during 1935-37 when price of sugar fell to about Rs 6 per maund when cost was about Rs 10. So long as the situation does not become hopeless it is evidently advantageous to continue production even if the price covers the prime cost and a part of the supplementary cost, which has to be incurred whether or not there is any production.

Average cost and marginal cost

The *average cost per unit* of any given output is the aggregate cost (prime plus supplementary) divided by the number of units pro-

duced, while the *marginal cost* of production is the cost per unit of an *additional output* if produced. The organiser of a factory is always trying to maximize his profits and evidently his profits can be increased so long as an additional output will sell for more than the additional cost. The former may be termed *marginal revenue* and the latter *marginal cost*. Profit is maximum when the two are equal. So long as marginal revenue is more than marginal cost it will pay to increase output, if marginal cost is more than marginal revenue already or if it becomes so after increasing output it will be profitable to reduce output. Thus it is the marginal (and not average) cost that ought to be covered by price. The concept of marginal cost and its relation to price may be made clearer by the following table

**Costs of production and profit of a Shoe
Factory for varying output.**

Output	Variable expenses Rs.	Fixed expenses Rs.	Total expenses Rs.	Average Cost per unit Rs.	Price per unit Rs.	Marginal Revenue Rs.	Marginal Cost Rs.	Profit on addi- tional or marginal output Rs.
(1) 5,000	35,000	30,000	65,000	13	10			
(2) 10,000	70,000	30,000	1,00,000	10	10	50,000	35,000	15,000
(3) 15,000	1,05,000	30,000	1,35,000	9	10	50,000	35,000	15,000
(4) 20,000	1,40,000	30,000	1,70,000	8½	10	50,000	35,000	15,000
(5) 25,000	1,75,000	45,000	2,20,000	8⅔	10	50,000	50,000	0

Here we see that marginal cost is lower than the marginal revenue under (2), (3) and (4). This is so whether we take marginal revenue and marginal cost in the aggregate or per unit of output, the latter in all the three cases being Rs. 10 and Rs. 7 respectively. And it is evident that increase of output raises the profits by Rs. 15,000 in all the three cases. In the last case (5) marginal revenue and marginal cost become equal and there is no addition made to profit. The cost per pair Rs. 10 is here equal to the price obtained in the market. Of course the average cost per pair Rs. 8⅔ is lower than the marginal cost.

It may be noted that each and every competing factory or firm tries to push output to the point where marginal cost and marginal revenue are equal, so that the market price and marginal cost tend to be equal. It is wrong to suppose that marginal cost refers to the costs

of production of some producers only and that the costs of the others are lower than them. During short periods, however, this is possible, in the long run the more efficient producers are bound to increase output until their marginal costs become equal to the price obtained.

Cost of reproduction

Usually the price ruling in the market for a commodity is not the cost actually incurred on the stock already produced but the cost at which it is being produced at any time, or, what comes to the same thing, the cost at which it can be reproduced. And this is called the *cost of reproduction*. For example, the price of cotton cloth already in the hands of dealers tends to be what it is costing the cotton mills to manufacture similar qualities. And this may be higher than in the past due to rise in the prices of raw cotton and coal and wages paid to labourers. Similarly, the prices may be lower than the costs of the existing stock if the prices of materials and wages have gone down due to trade depression or other cause.

Opportunity Cost.

The total cost of producing a commodity is the aggregate of the prices of the services of a number of factors of production that help to produce it. For example, the cost of production of a pair of dhoties is the price of cotton and coal used, interest on capital and wages of labour. Prices of cotton and coal are really prices of labour that produced cotton and coal, while interest is the price of the use of capital for a given period of time. And the price of each factor tends to be equal to what it could get or earn in other alternative employments. The remuneration of *all* the factors engaged in producing cotton cloth taken together is again determined in the long run by the remuneration available in another occupation open to them. Supposing that the group of land, labour, capital and organization in a cotton mill produce 1,00,000 pairs of dhoties in a year and that if they produced wollen cloth instead it will be worth Rs. 10,00,000. Then the cost of 1,00,000 dhoti pairs is Rs. 10,00,000. Cost conceived in this manner is called *opportunity cost*.

Factors affecting cost of production,

Cost of production of a commodity is increased or reduced by the following factors

(a) Inventions of machinery and improvement in the methods of production, storage, transport and distribution of a commodity reduce the cost of production.

(b) Discovery and utilization of new and richer natural resources such as more fertile soil, mineral deposits and water power reduce costs while exhaustion of such resources increases them.

(c) Increase in the efficiency of labour will reduce costs while diminution in efficiency will increase them.

(d) Increase in the scale of production reduces costs in many industries as we have already seen

(e) Increase and decrease in output reduces and increases costs in the case of industries where the law of increasing returns prevails. In diminishing returns industries, on the other hand, increase in output increases costs while diminution in output reduces costs. Where, however, returns are constant costs do not change with a change in the quantity of output. But this is true in the long run when factors of production have been fully adjusted to the change in output.

(f) In the short period costs of production usually increase with a change in output in all kinds of industries. With an increase in output the existing equipment has to be used more intensively, so that costs increase due to higher rate of overtime wages and also greater rate of depreciation of machinery. When output is reduced prime costs go down proportionately but interest on fixed capital and most of the other supplementary costs remain as before and the total cost per unit increases.

(g) Tax put on a commodity at any of the numerous stages through which it passes between production and consumption raises the cost of production while a bounty reduces it. For example, the cost of production of a pair of shoes will increase from Rs 10 to Rs. 11 per pair if the government levied a tax of Re. 1 per pair, and it will become Rs. 9 if the government started paying the factory owner Re. 1 for each pair produced. Taxes and bounties are now becoming more common every day as the state is trying to reduce consumption of certain articles and to increase that of the others. Again commodities consumed generally by the rich are taxed while those used chiefly by the poor are granted bounties.

Cost of production and supply schedules and Curves

The supply price of a given quantity of a commodity during a given period of time is the marginal cost of such quantity during that period. During a short period the marginal cost and supply price tend to rise both with an increase and diminution of output. During the long period, however, the marginal cost and supply price increase, decrease or remain constant with increase and reduction of output according as the commodity is produced under the laws of diminishing, increasing or constant returns. This may be illustrated by means of supply schedules and curves as follows.

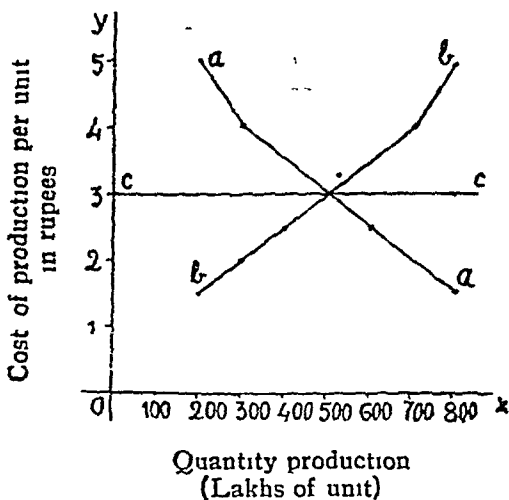
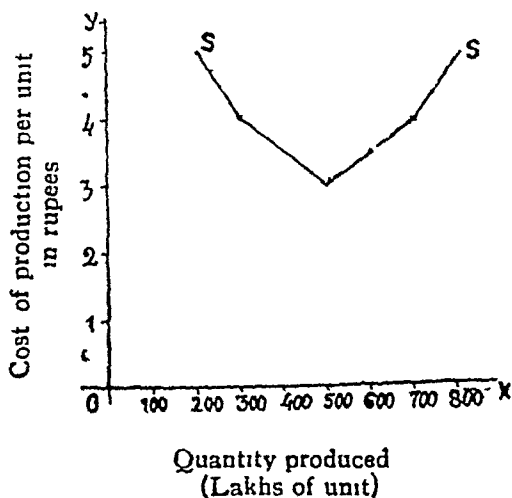
Supply schedules A supply schedule is a table showing the prices at which different quantities of a commodity can be produced and put in the market for sale during a given period of time. Evidently these prices, which we may call *supply prices*, are based on the cost of production *at the margin of production* and change both with change of period covered and variation in output. This is brought out by the following comprehensive table.

Supply Schedules

Out put (Lakhs of units)	Marginal cost of production and supply price per unit for varying output during			
	Short period for commo- dities produ- ced under	Long period for commodities produced under the law of		
		Increasing Return (Schedule B) Curve (2) a a	Diminishing Return (Schedule C) curve (2) b b'	Constant Return (Schedule D) Curve (2) c c'
	Any of the three laws of returns (Schedule A) curve (1) s s			
	Rs	Rs	Rs	Rs
200	5	5	1/8	3
300	4	4	2	3
400	3/8	3/8	2/8	3
500	3	3	3	3
600	3/8	2/8	3/8	3
700	2	2	4	3
800	5	1/8	5	3

Supply Curves

These schedules may be represented by four different curves ss , aa' , bb' and cc' corresponding to the four schedules A, B, C and D.



1. Short period curve ss applies to all commodities whether they are produced under increasing or diminishing or constant returns. Supposing the quantity produced at any time to be 500 and cost of production and supply price to be Rs 3 per unit. Now if the output

is increased or reduced the cost of production and supply price both rise for reasons explained previously in this chapter.

2. Long period curves differ for the three types of commodities. *Curve aa'* represents supply or cost of production curve for commodities subject to increasing returns or diminishing costs. In this case we see that cost and therefore supply price *per unit* falls from *a* to *a'* as output increases. If we take the curve in the reverse direction i.e., from *a'* to *a* we find that cost per unit increases as output is reduced. In *Curve bb'* representing diminishing return or increasing cost commodities we find the cost per unit rising throughout the length of the curve from *b* to *b'* as the quantity of output is increased, and of course it falls with a reduction in output from *b'* to *b*. *Curve cc'* stands for constant returns or costs commodities and here the cost per unit and of course the supply price based on it remain the same whether output is increased from *c* to *c'* or reduced from *c'* to *c*.

CHAPTER XIII

THE NATURE AND CLASSIFICATION OF WANTS

Consumption.

Consumption as a division of economics deals with the study of human wants and their satisfaction through the use of wealth. All human activity in the economic field arises from the existence of human wants and the strong urge to satisfy them. Consumption is at once the end of all economic activity and of wealth that such activity brings into being. Earlier economists emphasised wealth and its production, modern economics is increasingly recognizing the importance of consumption and of human welfare which it promotes. Efficiency of man as a producer of wealth is meaningless unless it increases human happiness. It is this widespread recognition that has led to state interference in economic activity. Thus the state attempts to prohibit consumption of certain intoxicants which injure health, restricts that of others like tobacco by high taxes and promotes by means of bounties consumption of articles like milk and books which develop health of body and mind. In the field of production itself the state restricts hours of work in factories even at the cost of output and consumption so as to preserve health and happiness of the workers.

As has been indicated before consumption in the economic sense means the use of goods and services for the satisfaction of human wants. Certain things are consumed directly such as bread, others satisfy human wants indirectly such as fodder and oil cake given to cattle which yield milk. Consumption, it may be noted, involves destruction of utility. The utility of goods like bread is destroyed in one act of consumption, other goods like clothes and houses give repeated satisfaction and lose their utility gradually over a period of time. When a good is consumed directly we call it final consumption, when it is used in producing other goods for final consumption we term the process as productive consumption. Thus fodder given to cattle and cotton used in a weaving factory denote productive

consumption. However, use of food, cloth and shelter by factory labourers during the period they are engaged in manufacturing cloth is final consumption because human wants are satisfied by them directly. The use of cotton in the factory and depreciation of buildings and machinery result in the production of a new good, cloth, and therefore consumption of cotton and machinery is said to be productive consumption.

The nature of wants

Economics does not inquire why human beings feel wants. Wants arise instinctively. Some of the human instincts and wants are common to all animals such as want for food, shelter and procreation. But man feels certain higher wants such as those for music, charity and display. A want should be distinguished from mere desire, an economic want is that strong desire which induces man to undertake the effort or sacrifice of money which is necessary to satisfy it. Any want that is incapable of being satisfied with money is not an economic want, e.g. the desire to become a yogi. Yet many of the religious desires such as those of building temples and free feeding of the poor are economic wants.

Human wants possess certain distinctive characteristics. (1) Wants are *limitless*. As one want is satisfied others arise, even the same want arises again and again such as that of food from day to day. It is this fact which explains ceaseless economic activity. (2) *Each want is satiable*. While there is no limit to the number of wants, each individual want is capable of being satisfied fully. It is this characteristic which, as we shall see, gives rise to the law of diminishing utility, according to which the desire to consume a good becomes less as satisfaction proceeds. (3) Wants *differ in intensity* or strength. Some wants like those for food are more strongly felt than those for clothes, it is this which explains partly at least the differences in prices. Price of food has gone up much higher just now than the price of cloth. Not only the present wants compete among themselves but after the satisfaction of the most pressing ones future wants begin to clamour for satisfaction and give rise to saving of income as against spending. (4) Wants are also *alternative* that is, they are capable of being satisfied by more than one commodity. Thus wants for entertainment may be satisfied by music or by

theatre, that for tea may be satisfied by coffee. Prices of goods of this nature, as we shall see, bear close relation to each other. (5) Some wants are *complementary*, that is, they require for satisfaction more than one good or service together, e.g. tea, milk and sugar; motor car and petrol. Such things are said to be *jointly demanded*, their prices are also mutually related.

Classification of wants.

Wants for various things have been classified according to their urgency and perhaps desirability into (a) necessities, (b) comforts and (c) luxuries. **Necessaries** include those things which are so strongly wanted that the available income is used first in obtaining them and comforts and luxuries are thought of only when income is enough to spare for them. Judgments of individuals differ widely in regard to what is a necessary, comfort or luxury. However, the following three types of wants are commonly considered necessities. (i) *Necessaries for existence*. A certain minimum quantity of food, cloth and houseroom is necessary for human life. In this we may include only the barest minimum that is required for existence of life. (ii) *Necessaries for efficiency*. Then an extra quantity or better quality of food, cloth and shelter is required for health and efficiency of both body and mind. Half a seer of parched gram per adult and a single room may be enough to maintain a family, but a little gur and oil, a separate kitchen and a pair of clothes are perhaps necessary for health and efficiency in production. (iii) *Conventional necessities*. Then there are certain things whose consumption becomes necessary through individual habit and social custom, and quite often they are put before necessities for efficiency at any rate. Thus persons habituated to a drug like tobacco will spend a pice on it before perhaps they think of food, again expenditure on conventional dress and ceremonies is usually taken to be so urgent as to be incurred even at the cost of variety in diet.

Comforts are those requirements which though not necessities in any of the above mentioned senses, promote happiness and welfare. Thus a separate room for guests, a copy of the daily newspaper and occasional travel or picnics to relieve monotony of life may be called comforts. They do promote mental poise and intellectual activity in the field of art, literature and science and to that extent help in increasing efficiency.

Luxuries With these there attaches some idea of social disapprobation if not active condemnation. As a rule we do not like a person whose ways of living are luxurious. On this basis we may say that luxury denotes consumption of things indulged in either for pomp and show or for satisfaction of whims and fancies made possible by too large an income. In this age of equality luxury is coming in for increasing criticism particularly as it diverts labour and capital from the production of essential goods to that of non essentials. At one time it was thought that indulgence in luxury by the rich created employment, now it is recognized that if the rich did not consume luxuries they will save their income and deposit it in a bank or invest it in some company and employment will not be reduced. It is only when income not spent upon luxuries is hoarded that employment will be reduced.

There is one form of consumption which perhaps goes beyond luxury such as use of intoxicating drugs and liquor which injure the health and efficiency of the user and prove harmful to social interest. Not only does it reduce efficiency but also diverts labour and capital into producing goods and services which deprive those engaged in their production and distribution. This is the reason why the state now attempts to prohibit such *harmful consumption*.

Relativity in classification of wants

It is generally agreed that articles of consumption cannot be classified rigidly. There are no absolute boundary lines between necessities, comforts and luxuries. What is considered as a comfort for some people may be just a necessary for efficiency for others and a luxury to a third group of people. We cannot put any of the consumption goods in a particular class without reference to the consumer, the time and place in which he is placed and the quantity of the good itself. The urgency of wants shows wide variation with time and place and with a change that occurs in an individual's income and habits. Thus a motor car may be a luxury for a clerk, a comfort for a businessman and a necessary for efficiency for a doctor who has to pay visits to a number of patients scattered over a wide area. A second car to such a doctor may be a comfort and a third one a luxury. Again things like electric light may be just a comfort in a big city and a luxury in a village where a separate plant has

to be established. It is a matter of common experience that with increase in productive capacity and rise in the general standard of living many things regarded as luxuries in the past are becoming items of just ordinary comforts.

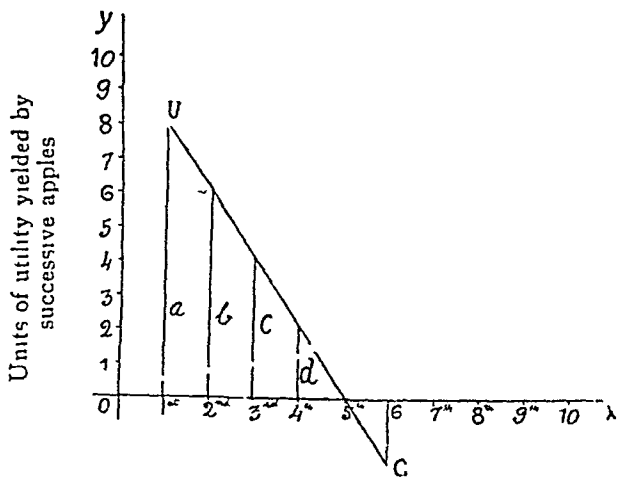
Dr. P. Basu has applied the uniform test of efficiency in classifying wants and on that basis has formulated what he calls the *law of consumption*, according to which a unit of commodity to a consumer living at a particular place and time is necessary if its consumption increases his efficiency and if he is deprived of it his efficiency decreases; if its use does not increase his efficiency but being deprived of it reduces efficiency the unit is a comfort, and if consumption does not increase efficiency and deprivation does not reduce efficiency it is a luxury. This statement takes into account the change in the class of a human want with change of person, place and time and at the same time supplies an easy criterion with which to judge whether a particular unit or quantity of a commodity is a necessary, a comfort or a luxury.

Generalisations about consumption.

Study of the nature of wants and of varying degrees of utility derived from their satisfaction has led to the formulation of the law of diminishing utility and the law of demand and these may now be examined.

The Law of Diminishing Utility.

The satiable character of each particular want gives rise to the fact that as we consume or get more and more of any one thing our want for it approaches satiety and every addition to our stock of such a thing brings diminishing satisfaction or utility. When satiety is reached further additions may yield no satisfaction or zero utility and may begin to prove a nuisance resulting in disutility or negative satisfaction. This tendency has been given the name of the law of diminishing utility, it has been aptly stated by Dr. Marshall in these words, 'the additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase of the stock that he already has.' The law may be illustrated by the consumption of a number of apples. The first apple gives us a certain amount of utility, the second one gives less utility, the third one still less and so on. The ideas may be made clearer by the following diagram or utility curve :—



Apples consumed or obtained in succession

In this diagram we see that the first apple gives 8 units of utility, the second one yields 6 units, the third apple gives 4 units and the fourth one just 2 units of utility. The utility of the fifth apple is zero and the sixth apple brings disutility or negative satisfaction. The vertical lines a, b, c, d and e represent the amount of satisfaction yielded by the apples taken in succession. By joining the extremities of these lines we get the utility curve UC , which being continuous indicates that not only successive apples but also the smallest parts of each bring diminishing utility.

Total utility and marginal utility

Total utility is the aggregate of the differing utilities of all the apples consumed while the marginal utility is the utility of the last apple consumed at any time. If only two apples are consumed the total utility according to the curve is $8+6=14$ and utility of the second apple is the marginal utility which is just 6. When six apples are consumed the total utility is $8+6+4+2+0-2=20$ and the marginal utility is -2 . The total utility, it may be noted, goes on increasing until the fourth apple is consumed but it increases at a diminishing rate. The marginal utility, on the other hand, diminishes throughout the whole course of consumption. We may therefore name the law as the law of diminishing marginal utility.

The concept of marginal utility needs a little further clarification. In purchasing apples we have to pay the price and in deciding

how many apples we shall consume we have to balance the utility of apples against the utility of money that has to be spent. And the estimates of utilities of apples and annas differ from individual to individual. Each of them tends to purchase apples upto the point where utility of an apple is equal to the utility of the money paid as price. Supposing the price of apples is one anna per apple and in the mind of a particular consumer the utility of the fourth apple, namely, 2 units is equal to the utility of an anna to him he will purchase four apples and the utility of the fourth apple is the marginal utility of apples to him. Marginal utility of a commodity to each consumer is thus the utility of the unit he is just induced to purchase. Such a unit may be termed *marginal purchase* and its utility, which is equal to the utility of money paid as price, is the *marginal utility*.

If apples are actually being eaten in succession the utility of the fourth apple in the case supposed above is marginal utility. But if they are just purchased to be consumed later all the four apples are alike. Marginal utility then is not the utility of any particular apple marked A, B, C or D but of any one of the four. And this of course will be less than if there were only three. Marginal utility of a commodity may thus also be said to be the utility of one unit of the stock possessed by a consumer.

Limitations and exceptions to the Law

The law of diminishing utility applies to an individual consumer *at or during a given time*. A fifth apple gives less satisfaction than the fourth on any given day, on the next day that same fifth apple may really be the first apple consumed and must therefore give more satisfaction than the fourth taken on the previous day. But even if the whole of a week or a year is taken into account the law will apply. If a person needs 12 maunds of wheat during a year evidently the first maund of wheat will yield more utility than the second. *The consumer himself should not change* either in person or in tastes. The fifth apple may be the first for another individual, and if the same individual consumer develops a stronger taste or liking for apples as he consumes some his satisfaction from additional apples might increase. Thus the law will apply only to a given individual at a given time. There is *one other limitation*. The units chosen must not be too small, if a seer of coal is necessary to cook one's food the first

tola by itself may be valueless and each additional tola will yield increasing utility upto one seer. Thereafter the additional tolas or chhataks would be used over less and less urgent heating and will therefore yield diminishing utility.

Among exceptions we may note that there are certain things whose value in the estimation of the possessor and the public increases more than in proportion to the increase in the stock already possessed. Such is the case with collections of rare things like old coins and stamps, where a pair is considered four or perhaps ten times as valuable as a single item. Similar is probably the case with most things wanted for display and for the prestige and power which they secure to the owner. And the hoard of money to a miser perhaps stands in the same category. In such cases, of course, additions to stock yield increasing and not diminishing utility and may therefore command higher price than the previous units.

Money required by the average human being is, however, not an exception at all. It is true that utility of money to an individual never becomes zero, and it certainly will perhaps never become a nuisance. Yet the utility of a unit of money, say, Re 1 grows less and less as we have more and more of it. This is proved by the rich man willingly paying more than a poorer one for a tonga drive or for almost any other commodity. And even the poor person will work longer and harder to earn the first rupee than he will to earn the second rupee on any day. Both the rich and the poor prize 51st rupee of their income more than the 101st. The case of money is special only in this that the utility of additions to one's stock of money diminishes very slowly. This is because money is not any one commodity whose want is entirely satiable. It is purchasing power, representing command over commodities in general, for which wants are unlimited. Money is acquired to satisfy not any one particular want but wants in general. Yet the first unit of income during any given period is spent over the most pressing want or wants and yields greater utility than the second.

The law of demand.

The law of diminishing utility gives us an idea of the diminishing strength of the want for a particular commodity and of the fact that the price we are prepared to pay for a commodity is equal to or at

least not greater than our marginal utility for it. This means that our demand for a commodity, or more particularly our demand price for it, is measured by its marginal utility to us. Demand simply denotes effective want, that is a want supported by the means, which is generally money, required to satisfy it. And as marginal utility of a smaller stock, say, two apples is larger than of a larger stock, say, 4 apples, our demand price for two apples is also higher than our demand price for four apples. This is the essence of the law of demand, which is directly based on the law of diminishing utility. This needs further explanation which follows.

The Law of Demand is usually stated in text books in these words "With a rise in the price demand decreases, with a fall in price demand increases." It is, of course, understood that this happens in the case of all commodities, including services. Now demand increases with a fall in price because the lower price measures the marginal utility of a larger stock of a given commodity to each purchaser and so a larger number of units is actually purchased by all or most consumers. When the price rises the higher price measures marginal utility of a smaller stock and fewer units are there fore purchased by each consumer.

A corollary of the law of demand is "the larger is the stock of a commodity the lower is the price at which the whole of it can be disposed of, conversely, the smaller is the stock the higher is the price at which it can be sold." Now a larger stock, say, 4 apples can be disposed of at one anna each because marginal utility to the consumer is just one anna when he purchases 4 apples. The marginal utility rises to two annas when there are only two apples to be purchased and the price also therefore rises to annas two per apple. What is true of one consumer is also true of other individual consumers and of all the consumers taken collectively. Thus the law of demand is directly related to the law of diminishing utility.

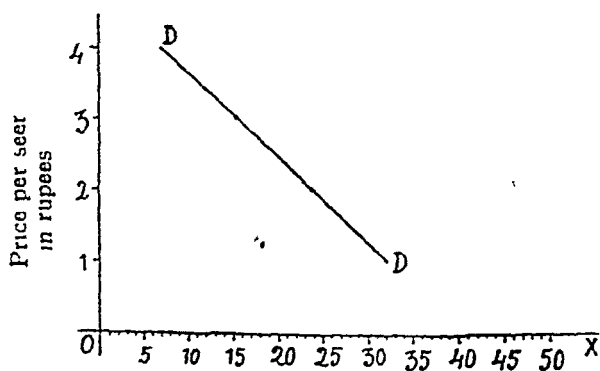
Demand Schedules and Curves.

The law of demand may be explained by means of a table called the demand schedule, showing the different quantities that will be purchased at varying prices by a number of individual consumers and by all of them collectively,

Demand Schedule for apples in Raja-ki-Mandi on a particular day

Price per seer Rs.	Number of seers that will be purchased by						
	Individual demand schedules						All of them together
	A	B	C	D	E	F	Market Demand Schedule
1	2	4	5	6	7	8	32
2	1	2	3	4	5	6	21
3	0	1	2	3	3	4	13
4	0	0	1	1	2	3	7

Such a demand schedule may be represented by a diagram called the demand curve as shown below.



Quantity of apples demanded in seers.

Both the schedule and the curve represent purely imaginary conditions, but they do bring out the relation between price and quantity demanded. Rise in price from Re 1 to Rs. 4 per seer reduces the demand from 32 to 7 seers. Taken the other way fall in price from Rs 4 to Re 1 per seer increases the demand from 7 to 32 seers. Another fact which both demonstrate is that 7 seers can be sold at Rs 4 per seer, but if 32 seers are to be sold in this small

local market the price has to be reduced to Re 1 per seer. The schedule and the curve are really tabular and diagrammatic representation of the law of demand.

We must note the great resemblance between the utility and the demand curves. Both slope downward to the right, showing that as quantity consumed or purchased increases the utility of each additional unit as well as the demand price for it falls. We also see here roughly the influence of utility on price. It is the marginal utility that determines price given the supply put in the market. But the supply price depending upon cost of production has its effect. We shall study the determination of price under the interaction of both the forces in the next part of the book.

Elasticity of Demand.

Increase and diminution in the quantity demanded due to fall and rise in price, though universal, is not uniform for all commodities. In the case of some the rate of increase and decrease is large relative to the change in price and the demand for such commodities is said to be *elastic*. In other cases change in demand is small compared to the change in price and the demand is then termed *inelastic*. *Elasticity of demand* is thus an attribute of demand, indicating that demand changes in response to change in price.

Measurement of Elasticity of Demand.

As the words 'much' and 'small' used in relation to elasticity of demand are very vague a method of measuring elasticity has been introduced. Thus (a) if the changes in the quantity demanded are proportionate to the change in the price of a commodity the elasticity of demand is said to be *unity*, which really means that elasticity is moderate or normal. In such a case the total amount spent over the commodity (i.e. price multiplied by the number of units sold) remains the same whatever the price. (b) If, however, the increase and decrease in the quantity demanded is more than in proportion to the fall and rise in the price of the commodity elasticity is said to be *greater than unity*, that is, the demand for such a commodity is more than moderately elastic or simply *elastic*. Another criterion of this large degree of elasticity is that the total amount spent on the commodity (i.e. price multiplied by units sold) increases with a fall in price and decreases with a rise in price. (c) When the change in

quantity demanded is less than in proportion to the change in the price of a commodity elasticity of demand for it is said to be *less than unity* or we might say that the demand for it is *inelastic*. In this case the total amount of money spent over the commodity (which again means price multiplied by the number of units sold) increases with a rise in price and decreases with a fall in price. Inelastic demand obviously means that with a rise in price people will reduce their purchases to a very small extent and spend larger amounts than before. With a fall in price they will not increase their purchases to any considerable extent and will therefore spend less than before. This measurement of elasticity is illustrated in the following table —

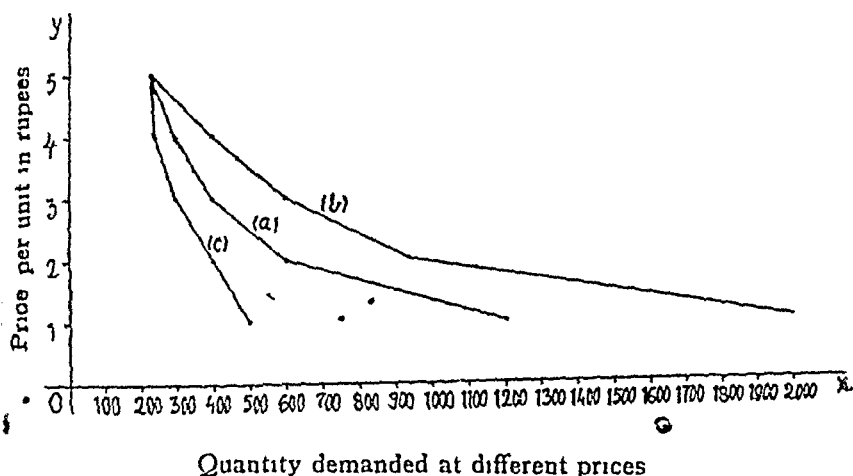
Measurement of Elasticity of demand

Price per unit.	Elasticity of Demand.								
	(a) Unity			(b) Greater than Unity			(c) Less than unity.		
	Quantity demanded	Total amount of money spent	Change in amount spent	Quantity demanded	Total amount of money spent	Change in amount spent	Quantity demanded.	Total amount of money spent.	Change in amount spent.
		Rs			Rs.			Rs	
1	1200	1200		2000	2000	—	500	500	—
2	600	1200		950	1900	-100	400	800	+300
3	400	1200		600	1800	-200	300	900	+400
4	300	1200	—	400	1600	-400	250	1000	+500
5	240	1200	—	240	1200	-800	240	1200	+700

In this table we see that in case (a) where elasticity is unity the total amount spent remains Rs 1200 at all prices and a doubling of the price reduces the demand to half. In case (b) of *elastic demand* the amount spent decreases with a rise in price, and if we count from bottom upwards it increases with a fall in price. Again a doubling of the price reduces the demand by more than 60%. In case (c) of *inelastic demand*, the amount spent increases with a rise in price and decreases with a fall in price counting from bottom upwards. And

of course, doubling of the price from Re 1 to Rs. 2 per unit reduces the demand by only 20 %. Conversely, we might say that halving of the price from Rs. 2 to Re 1 increases the demand by only 25%.

These measures of elasticity may be represented by separate demand curves as in the following diagram :—



Important thing to be noticed in these curves is that the more inelastic the demand the more steep is the curve representing it. The curve (a) denoting moderate or standard elasticity lies in the middle of the curves (b) and (c) which represent elasticities greater than and less than unity respectively.

Variations in elasticity of demand. The differences in the elasticities of demand for different commodities rest on the relative strength of the wants they satisfy and the quantity of a commodity which a person can make use of. Thus, want for necessities like food is strong but the quantity a man requires for consumption during a day or week is strictly limited. Want for comforts like newspapers and books is weaker but capacity for consumption almost unlimited. These two things, the relative urgency of a want and the quantity of a commodity an individual is capable of consuming, determine the rate at which marginal utilities of commodities rise and fall with decrease and increase in their supplies. The higher this rate is the more inelastic is the demand and vice versa. Where utility falls slowly the price offered for additional units does not fall much, nor

does the demand price for fewer units rise much. On the other hand, where marginal utility falls rapidly, as in the case of commodities with inelastic demand, the price offered for additional units falls much, and because such utility rises considerably with a reduction in supply the price offered for fewer units rises rapidly. Applying these criteria we find that

(1) The demand for necessities of life such as food grains is very inelastic. Nearly the same quantity is purchased by the average consumer so far as he can help it, so that income spent on other things tends easily to be transferred to necessities with a rise in price due to scarcity. When plenty lowers prices little more of them is purchased and income thus released is transferred to comforts and luxuries, whose prices therefore tend to be more stable. Naturally the prices of necessities rise much with a reduction in annual output and fall considerably with an increase in such output. The World War II has brought about a general rise in prices due to inflation of currency but the prices of food grains have risen much more than the prices of sugar or newspapers which are largely in the nature of comforts. And during the trade depression of the thirties the prices of food grains had fallen considerably more than the prices of sugar and newspapers. Thus we find clear proof of the influence of elasticity of demand on price.

(2) The demand for comforts and cheaper luxuries is usually elastic because the wants for them are unlimited and a relatively large unsatisfied demand always exists for them. A little fall in their price puts them within reach of many who went without them before and expenditure on them increases much. When price rises expenditure is considerably curtailed. Thus we find that elastic character of the demand for them helps to steady their prices.

(3) Demand for commodities having good substitutes is greatly elastic and their prices are therefore more stable. A rise in the price of tea tends to transfer expenditure from it to coffee, a fall in the price of tea tends to transfer expenditure from coffee to tea. Thus the prices of both are related and tend to be more stable than the prices of necessities like salt for which there are no substitutes. Wheat has no good substitute but Jowar and Bajra are good

substitutes of each other even though they are necessities for a section of the population.

(4) Demand for costly luxuries and for fashionable articles such as new types of series introduced at relatively very high prices is inelastic. They are within reach of a limited circle of the well-to-do people, for whom small changes in price do not matter much and whose wants for them are therefore more or less fully satisfied. As their prices fall to levels within reach of a larger section of population demand becomes elastic and price fluctuations narrower.

Significance of the concept of elasticity of demand in practical life. (1) Elasticity of demand greatly affects the consumer's surplus, described in the next chapter. Consumer's surplus is small in the case of commodities with elastic demand but relatively large in the case of inelastic demand, particularly at low prices and can be easily squeezed by monopolists and tax gatherers. (2) As we have already seen *elasticity of demand is closely related to price*. Elastic demand makes it difficult to raise price by curtailing output, but inelastic demand makes this relatively easy. And as a monopolist has complete control over output he is apt to fix price of a commodity with inelastic demand at a high level so as to reap large monopoly profit. State control over such monopolies thus becomes very necessary. The relation between monopoly price and elasticity of demand has been more fully examined in the chapter on monopoly. (3) Elasticity of demand for a commodity is also of significance to the finance minister in levying taxes. A commodity with inelastic demand can bear a higher tax than one with elastic demand. A high tax on the latter will reduce the demand very much and the proceeds of the tax, even though high, may be small. Thus the tax on salt in India used to secure to the government a large annual revenue of about Rs. 10 crores. It has now been abolished.

CHAPTER XIV

CONSUMPTION AND ECONOMIC LIFE

In the last chapter we studied the nature of wants and examined some of the laws that are based upon them. It now remains to consider the influence of these wants and laws of wants on economic life of individuals, families and the nation as a whole. As we shall presently see, this influence is very significant in a number of ways. Relation of diminishing utility and of demand and its elasticity to economic life has already been discussed. We may now consider the implications of other features of consumption, starting with the emergence and significance of the consumer's surplus.

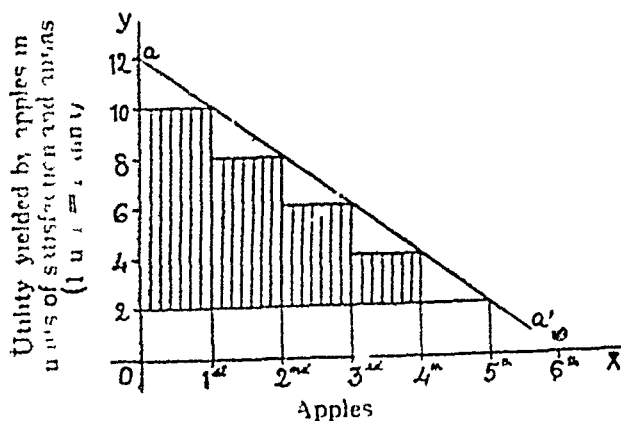
Consumer's Surplus,

The individual consumer and the community comprising the whole body of consumers secure in purchasing and using most commodities or services a surplus of satisfaction over money spent on purchases and this is called *consumer's surplus*. It has been defined by Marshall as "the benefit which a person derives from purchasing at a low price things for which he would rather pay a high price than go without." This surplus satisfaction naturally emerges from the operation of the law of diminishing utility in consumption and from the fact that the price we pay for each of a number of units of a commodity equals the utility of the marginal purchase or the last unit which we are just induced to purchase, and which therefore yields less utility or satisfaction than the previous units. This is illustrated in the following table.

Table showing consumer's surplus

Apples consumed or stocked	Units of utility yielded	Price one would pay rather than go without (annas)	Price one actually pays (annas)	Consumer's surplus yielded in	
				Units	annas
1st	10	10	2	8	8
2nd	8	8	2	6	6
3rd	6	6	2	4	4
4th	4	4	2	2	2
5th	2	2	2		—
Total 5 apples	30 units of utility	30 annas.	10 annas.	20 units.	20 annas

The consumer in this case purchases 5 apples because the fifth apple yields utility or satisfaction equal to two annas, the price at which apples sell in the market. He gets no surplus of utility in the case of the fifth apple which is the marginal purchase. But on the first four apples he does get a surplus satisfaction. Supposing the consumer puts on each unit of utility yielded by apples a value equal to one anna, his surplus satisfaction is equal to 20 units in terms of utility and 20 annas in terms of money. The measure of his surplus satisfaction is total utility minus marginal utility into number of apples purchased or $(30 - 2 \times 5) = 20$. The economic or money measure of the surplus is total price he would pay rather than go without minus the market price into the number of apples purchased or $(30 \text{ annas} - 2 \text{ annas} \times 5) = 20 \text{ annas}$. Thus the money measure of the surplus is a consumer obtains in the words of Dr. Marshall "the excess of the price which he would be willing to pay rather than go without over that which he actually does pay". The concept of consumer's surplus may also be represented by the following diagram :—



Each rectangle represents the satisfaction derived from successive apples in units of utility and also units of money (annas). The blank part at the bottom of each rectangle represents the utility sacrificed in paying the price and the shaded part denotes the surplus satisfaction in each case. The graph $a-a'$ obtained by joining the top right extremities of the rectangles represents the continuous diminishing utility curve, applicable if apples or any other commodity is pur-

purchased in very minute parts or units. Consumer's surplus will then increase by the aggregate of the triangular areas at the top of each rectangle.

Consumers's surplus accrues even to an isolated individual like Robinson Crusoe, who does not purchase anything but consumes what he himself produces. In such a case the first hour's picking of wild fruit means little exertion but brings large satisfaction. The second hour's effort increases irksomeness of labour and brings less satisfaction because of the operation of the law of diminishing utility. Suppose Robinson Crusoe finds that the fifth hour's picking yields satisfaction or utility which just compensates the disutility of the extra effort of that hour. He has reached the margin where effort and satisfaction balance. The fifth hour's labour then measures the marginal utility of five units of wild fruit. The fifth *pan* or unit yields no surplus but the four units picked in the first four hours do yield consumer's surplus. In a money economy each hour's labour yields a uniform wage, say, of four annas. The first four hour's wage is used in satisfying the more essential needs, the last four anna piece obtained from fifth hour's work is spent over meeting the least urgent want and therefore yields no consumer's surplus.

Consumer's surplus of the market The consumer's surplus of all the purchasers in a market during a given time may be estimated by adding together their individual surpluses. It may be represented by the same diagram if we take each apple on the *OX* axis as standing for 100 apples and each unit or anna on the *OY* axis as standing for 1000 units or annas. The total consumer's surplus will then be 20,000 units in terms of satisfaction and 20,000 annas in terms of money. But then we shall have to suppose that there are 1000 purchasers of similar incomes and tastes each purchasing 5 apples and the fifth apple being the marginal purchase in each case. This is of course not true in actual life. However the supposition does help to make the concept of *market surplus* some what clearer.

Substance in consumer's surplus The concept of consumer's surplus and its money measure have certain *limitations*. (1) There is the difficulty of estimating "the price one would pay rather than go without" for an individual as well as for the market as a whole. It is probable that if only 1000 post cards were annually available from

the Indian Post Office people will offer very high price but we cannot say actually what height the price would reach. Therefore it is difficult to compute in money the consumer's surplus yielded by post cards or any commodity. (2) Then there are the differences in incomes. If a few rich people are prepared to pay fancy prices for certain things it does not mean that the satisfaction they obtain is really high, their high bids only show that value of money to them is very low. This is particularly the case with things wanted by the rich for display such as diamonds. If diamonds became plentiful and their prices fell very low, the bulk of satisfaction derived from them will disappear. Thus a high money measure of surplus satisfaction obtained from such things at high prices is in reality unsubstantial. (3) More or less similar is the case with barest necessities of life and particularly with conventional necessities. A person may pay the whole of his year's income or store of wealth running into lakhs of rupees for a chapati if he is hungry and bread becomes extremely scarce, he may also pay, say, Rs 100 to obtain a cap which he must wear to maintain respectability in society if such caps became scarce. But in neither of the two cases can we say that any real surplus of satisfaction is obtained by the consumer when he gets chapaties and caps at an anna each. If it were so, consumer's surplus can be multiplied many-fold by just destroying or reducing the output of necessities of life. High price one may be willing to pay does not mean any *positive* pleasure, it measures only the *negative* satisfaction of avoiding pains of hunger or fall in social estimation. Prof. Taussig has therefore rightly suggested that computation of consumer's surplus should begin after the elementary needs have been satisfied and the stage of comforts has been reached.

Yet consumer's surplus is not altogether fictitious as some economists have tried to show. We do feel frequently that we are getting in our purchases more than our money's worth. This is the case with most of the things of comfort. Most of us will gladly pay one anna or more for a post card which we now get for half an anna. The surplus satisfaction obtained will be clearer if we had to live in a country where this cheap postal facility was not available or available at a much higher charge. We obtain such a positive surplus in our purchases of many commodities such as electric light, newspapers and sugar whose prices have fallen due to progress in the arts

of production in industrially advanced countries. A given income in such countries brings more satisfaction than it would in a backward country. In a city we get education, medical aid and entertainments at a much lower cost than in a remote village, and the resident of such a village realizes this as he moves from the village to settle in a city. Consumer's surplus is thus largely dependent upon conjuncture of the consumer, i.e., circumstances prevailing in the place and time in which he is placed.

The existence of consumer's surplus in expenditure of income has significance in problems of practical economic life. It measures the extra amount of money which a consumer can spend on a commodity, and this is taken advantage of by the monopolist producer and the finance minister. The monopolist can and does try to squeeze the surplus by curtailing output and raising price of the monopolized commodity. The tax gatherer is also on the lookout for this surplus and tries to annex it to the state treasury by putting taxes on commodities yielding a substantial surplus.

Substitution in Consumption.

Production is concerned with the earning and consumption with the spending of income. As a producer a person tries to maximize income by increasing output and reducing costs of production, as a consumer he tries to maximize satisfaction by the wisest possible use of the given income. And wise spending means that each unit of money income is used to obtain that commodity or its unit which yields maximum utility. For this substitution of more for less satisfaction yielding goods is necessary. And of course maximum satisfaction is obtained when marginal utility of money income spent upon various commodities and services is equal. The place of the principle of substitution and the law of equi-marginal utility in consumption has been more fully considered in Chapter IX, Pages 78-81.

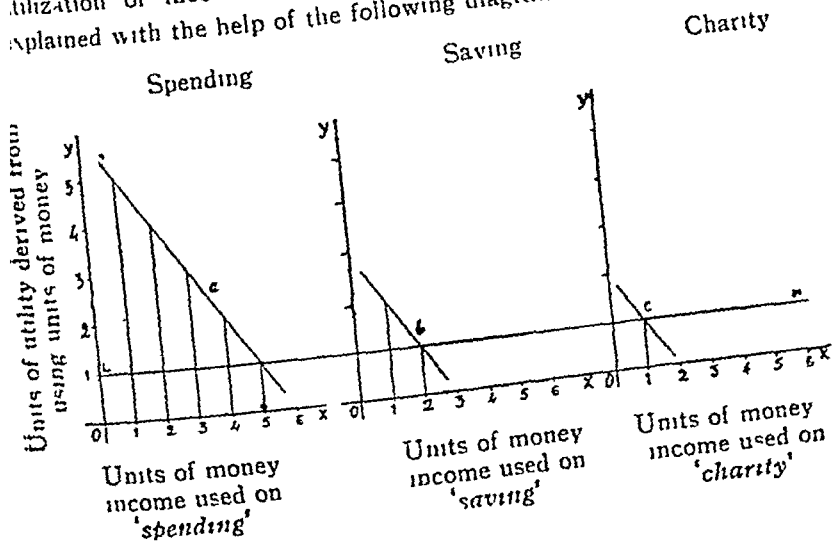
Spending and Saving

The principle of substitution and the law of equi-marginal utility are of universal application in the utilization of limited resources at the disposal of an individual, family, firm, joint stock company or public authority, whether such resources are of the nature of

capital or income. In primitive stages time and energy of an individual have to be wisely distributed over producing things for consumption directly. In a modern community productive effort brings money income, and the problem therefore becomes a two fold one. *In the first instance* it consists in the utilization of time, effort and capital resources over producing things which bring the largest possible money income and *in the second place* it involves economical use of the income earned.

A part of the income is now a days compulsorily taken by the state as tax in one form or another. This part of the income is of course not lost, it comes back in the form of varied services provided by the state. The individual consumer has, however, no choice left over its utilization, nor does the benefit of the state services bear any direct proportion to the amount of the tax paid. The disposal of the net income left after paying taxes is in the hands of the receiver. The principle of substitution then comes into play and the consumer has to apportion his income over three things, (1) satisfaction of present wants, which is *spending*, (2) setting aside a part of the income for future use, which is *saving*, and (3) deciding whether or not any part of the income can be spared for the satisfaction of the wants of others, which is *charity*.

Application of the law of equi marginal utility in the utilization of income over spending, saving and charity may be explained with the help of the following diagrams —



The three curves a, b and c show the units of utility or satisfaction derived from using successive units of money income over spending, saving and charity respectively. It is supposed that a unit of money and each unit of utility derived are equal in value. The positions of the curves denote the order of importance attached by a person to present wants, future wants and wants of others. Now if a person earns Rs 8 per day he will devote Rs 5 to spending, Rs. 2 to saving and Re. 1 to charity to keep marginal utilities of income equal in each case and obtain maximum satisfaction. The same three curves may be used for necessities, comforts and luxuries respectively to illustrate the distribution of the whole of the day's income over satisfying the day's needs as many people with small incomes have to do. Saving and charity curves in this case will lie below the line LM.

In the distribution of income over the three items the peculiar tastes of the individual and the size of his income have great influence over his decisions. Yet certain considerations of general economic importance may be noted.

Spending. The most pressing claim on the available income is that of the satisfaction of *immediate wants* of the individual and the members of his family. And here though *economy* is necessary *parsimony* is unjustifiable. After satisfying the wants for barest necessities claims of necessities for efficiency and moderate comforts which increase efficiency and future income, must be given due weight. In deciding about the amounts to be spent upon different things the law of equi marginal utility has to be pressed into service, but here also the judgment of the individual about quality and his ability as a bargainer are of great help. Choice of right quality and quantity and avoidance of waste in the kitchen and the wardrobe are necessary from the point of view of common sense as well as that of economics.

'Harmful consumption', which connotes not only drugs and liquor but also 'overeating', ought to be totally avoided while propensity to indulge in luxury needs curbing to the utmost. The former is positively injurious, the latter also makes for indolence and inefficiency after a certain point. The claims of the future against both are doubly important. Both lead to the starvation of the future wants by leaving less for the future and reducing the future income. Very

often such spending leads to 'trenching upon capital' i.e. spending of past savings and disappearance of future income which capital brings. It may go further and create indebtedness, which means consumption of future income and further starvation of future wants. For, loans are obtained on the security of future income, which is thus mortgaged.

A word may here be said about expenditure on conventional necessities. These are usually *most unnecessary* necessities, and happen to be the cause of the bulk of rural indebtedness. Both rural and urban masses in India spend large amounts relatively to their incomes on various ceremonial feasts and the source is usually loans, or the income is barely sufficient to meet even the pressing wants of the present. Remedy for indebtedness lies partly in reducing expenditure on such conventional wants and partly in increasing the incomes. Unfortunately, expenditure on things which increase efficiency, such as proper feeding and education and training of the children, tends to be starved by the masses, though of course this is due partly to the smallness of income.

Saving The part of income that is saved is available for satisfying future wants, and with the satisfaction of present wants on a reasonable scale the urgency of future wants appears and leads to saving. Wants of the future are of various kinds and vary in their urgency. There are those that are *foreseen* such as maintenance of the individual after retirement and education and marriage of children, others are *unforeseen*, liable to occur under certain contingencies such as sickness, unemployment and accident. There is a third variety, namely, ambition to raise the economic status of the family. A prudent man ought to provide for all of them to the extent that his income allows.

Saving is of great importance for economic welfare. Income that is saved is helpful on the 'rainy day' even if it is hoarded. But when invested it grows at compound interest and raises the future income and economic status at a progressive rate. Profitable investment of savings has now become easy through the establishment of banks and joint stock companies. Without saving a family is subjected to untold suffering in times of adversity, and debt incurred

to tide over a difficulty leads to pauperism as surely as saving leads to prosperity. Yet, saving ought not to be carried to the extreme at the cost of essential needs of the present. Miserliness is false economy and hinders economic progress. Wise course is to maintain proper balance between spending and saving.

Charity ought also to find a place in the disposal of income. After both the present and the future wants have been provided for, help to neighbours in distress ought to claim our attention. At any rate their barest needs for food and clothing ought to have precedence over our wants for luxury. This might appear to be going beyond the province of economics and stepping into that of ethics. But even economically the satisfaction of the community as a whole increases if income spent upon non essentials by the more well to do is transferred to the poor for expenditure upon essential needs.

Social side of spending and saving. The way in which an individual uses his income affects not only himself and his family but also society as a whole. We have already seen how economic well being is increased by wise charity. It may prevent whole families from being ruined by starvation during sickness, it may make them prosperous if assistance is extended in the education and training of their children. The part of income withheld from charity may satisfy just sensual wants of the rich and lead only to their own degradation. This discussion really extends the principle of substitution and equal marginal utility over a broader field. We are here comparing not only the strength of the present and the future wants of an individual but also the strength of his wants with the strength of the wants of other members of society.

But expenditure on luxury and harmful consumption has other more serious social evils. It leads to the diversion of capital and labour from production of necessities to that of luxuries and things injurious to the health and morals of both the users and the producers, and to that extent it is bound to affect adversely the present and future economic well being of society. Thus consumption of liquor injures the health and character of the user and cannot but affect similarly those engaged in its brewing and distribution. It is a matter of common knowledge that idlers, gamblers and thieves are largely recruited from drunkards and persons engaged in liquor and drug traffic.

It is a false notion to suppose that extravagance in expenditure creates employment. Income spent in charity or put in banks that lend it to producers and traders creates demand for goods and employment no less than income spent directly upon luxury. Diversion of income from indulgence in extravagance to charity or bank deposits substitutes employment in more wholesome occupations. Another wrong idea that prevails among certain people is that destruction of goods such as deliberate breaking of glass panes creates employment. It will be correct if money spent over refitting of glass panes in the doors and windows will otherwise be boarded. But if, as is usual, it is used on other things or put in banks, it will provide employment. Destruction of property is thus pure *economic waste* from the point of view of the individual owner as well as of society. Persons engaged in making and refitting glasses will otherwise be engaged in producing some *additional wealth* instead of just *replacing that which has been destroyed*.

Saving. We have seen how saving and its absence affect the economic life of a family. Saving leads to prosperity and its absence to poverty if not total ruin. But they are of great significance to society as well. A family is a unit of society, which is made up of a large number of such units. The aggregate of economic prosperity and poverty of families makes up the prosperity and poverty of society as a whole. But saving by families increases prosperity in another manner. As savings and their investment increase, the capital equipment of the community in the shape of machinery and factory-buildings grows and so does its productive power. As savings shrink, the productive apparatus and its output fall.

Every rupee that is saved is either invested by the saver in his own business if he owns one or lent to some one else, or it is put on deposit in a bank, which lends it to its customers. In each case the savings result in the formation of capital goods and increase of consumption goods available for the use of the community unless of course, the loan is used by the borrower directly for consumption. Saving is undertaken by firms and companies also in the form of reserves of profits and sometimes by governments out of revenues to build canals or railways. When spending increases and the flow of savings becomes weak the speed of capital formation and increase in

output of goods gets slowed down. If savings cease the demand for capital goods disappears. Then not only does the growth of capital stop but also its renewal which is constantly necessary because of perpetual depreciation. This will mean complete disappearance of factories and workshops in course of time.

Sometimes, as during periods of war, capital is more directly consumed. The needs of war may be met not only by postponing renewal of capital equipment but by its direct utilization in fighting. Thus motor lorries used in transporting raw materials and finished goods between the farm and the factory and between factory and the consuming centres may be utilized for transporting soldiers and ammunition to the theatres of war. This we may call living upon capital by a nation. It pauperizes the nation just as it pauperizes the individual who starts consuming his capital built out of past savings. The present situation created by world war II in India and many other countries is evidence of such capital consumption. It of course occurred even though savings by individuals, companies and other bodies continued during the War, because such savings flowed directly and through banks into war loans, which were utilized in feeding the 'War Machine' instead of the country's productive machinery to which such savings accrue during peace time. Our factories and our railways have been starved of repairs and renewals and their reduced productive capacity is the cause of much of the existing scarcity of consumer goods and economic distress.

No doubt, excessive saving at the cost of spending is injurious to social interest as it is to that of the individual. Such undue extent of saving means ruin of health, happiness and productive efficiency of the individual and his family. In the social field it leads to underconsumption and over production, trade depression and unemployment. Excessive flow of savings towards capital formation leads to a glut of goods in the market for which there is no demand. Prices of consumption goods poured forth by the old and new factories fall, profits decline or vanish, production is curtailed and workers of all types are thrown out of employment.

On the whole individual and collective saving is of great importance to social well being and is encouraged by the state by such measures as exemption of saved income and undistributed profits

of companies from taxation. Sometimes higher rates of interest are allowed on small savings deposited in Postal Savings Banks to induce persons of small means to save. Government of India is just now trying to do this, partly to promote saving but primarily to fight inflation, which is causing great distress to large sections of the population. The real cause of the malady which has appeared in the shape of inflation or unduly high prices lies in the diminution in capital equipment during the war. Plenty of money and high prices are evidence of the relative scarcity of capital goods and of consumption goods which the former help to put out.

Unfortunately the government of India is discouraging saving and investment by its inclinations towards socialistic ideology of limitation of profits and dividends and nationalization of private undertakings. If savings invested in factories are in danger of being taken over by the state at arbitrary prices, or annual yield on them is limited to a small percentage without compensation for risks of loss, saving will either not be undertaken or boarded in the form in which it can escape control and confiscation. As currency notes and bank deposits have become subject to commandeering by the state along with factories and farms we see these days the phenomena of hoarding of gold and silver on a large scale.

Of course saving by individuals can be dispensed with if the state undertakes this on its own account as in Soviet Russia. But then private enterprise and private saving have both to be abolished together. We cannot combine state saving with private enterprise. So long as the state is not able to take over both, freedom of enterprise is necessary for saving that is required for renewal and growth of capital equipment.

Standard of living.

Modes of Spending and saving are greatly related to the size of income and to the modes of thought and living of a people. The kinds and quantities of necessities and comforts of life consumed by them are determined by their incomes and habits and constitute what is termed their *standard of living*. Standard of living of a class of people may be defined as the amount of necessities and comforts of life to which they are so accustomed as to postpone marriage and begetting of children until income is sufficient to procure the customary

needs of the family' This means that there is a strong will to maintain the standard and to resist its lowering. This is true of the class as a whole, some individuals in each class are of course continually moving up and down the class scale due to marked differences of ability, character and chances beyond their control.

The standard of living *varies* from class to class, from country to country and from time to time according to variations in incomes, climatic conditions and habits of living. Within a class, however, *great stability* in the standard of consumption tends to prevail, bringing about considerable degree of uniformity not only in diet, dress, lodging and other common needs but also in the modes of working and earning of income. This perpetuation of the standard of living is good in so far as it prevents lowering down of the standard of comfort and productive efficiency, it is bad to the extent that in the words of Prof. Chapman 'it suppresses all individuality and retards change for the better'. Just as cuts in income are resisted by strikes, postponement of marriage and extra or overtime work, if necessary, rise in wages and standard of comfort may be *resisted* by slackening of effort or greater propensity to early marriage and increase of family. Indian factory labourers are said to absent themselves from work on a larger number of days when wages are raised. Thus mere increase in earnings need not raise the standard of living. The additional income may be put to so many alternative uses such as (a) increase of family, (b) greater leisure or idleness, (c) more consumption of liquor and drugs, and (d) raising of the standard of living. The first two uses leave the standard untouched, the third may easily lower it, the fourth is commonly agreed to be the right use.

The standard of living of Indian masses, both rural and urban, is very low indeed. It is proved both by the study of actual budgets of consumption and by the low per capita income in India, which was estimated by Dr. V. K. R. V. Rao at Rs. 65 per head per year in 1931-32. It went up to Rs. 114 in 1942-43 against an inflation of 100 per cent in prices and of course must be much higher today in terms of money. But the difference in *real income* cannot be at all appreciable, except in the case of the farmers. In fact, in the case of the factory workers real income must be lower due to the rise in prices and cost of living.

being much higher than the rise in their wages. And even this small per capita income gives a false idea in so far as it is an average of the incomes of the poor and the rich together. If the incomes of the rich and middle classes are left out, the per capita income of the masses will come to something much lower than Rs. 114 per year. This means that the vast bulk of the Indian population lives in great misery and stands in need of an appreciable rise in its standard of living.

A rise in the standard of living from the barest subsistence to a reasonable level of comfort is necessary on several grounds. Firstly, feelings of humanity revolt at the thought of crores of half starved people living in scanty, ill ventilated and insanitary mud hovels in the villages and city slums. Secondly, weak health and life of hopelessness and drudgery make them inefficient producers and perpetuate poverty. Thirdly, all their sense of prudence and progress is deadened, they marry and procreate thoughtlessly and thus bring down the already low standard of subsistence to progressively lower depths. Fourthly, their inefficiency and poverty drag down society at large by lowering the country's productive power and increasing vice and crime, which always thrive in slums and spread outwards. Once their standard of living rises, they are put on the road to sure progress. Hope, ambition and efficiency return and enrich their and their children's lives. Thus the various plans drawn up by public authorities and private agencies in India to increase production and raise the standard of living of the people ought to be welcomed and executed with the least possible delay.

A word of caution is, however, here necessary and that is that standard of living should not be made a fetish. The natural resources of India and of the world as a whole are after all limited, and notwithstanding the great progress in sciences and arts that has and is taking place it will not be possible for wealth production to outstrip the growth of wants of an ever expanding population. Individuals apart, some limit to the standard of comfort of the people as a whole is inevitable and ought to be accepted. Constantly increasing national and group ambitions to raise standards already high as in America and even Germany before the World War II lead to international conflicts and perpetual class struggles inside national boundaries. A smaller or larger number of individuals and families

can attain really high incomes and standards of consumption according to their ability and character and the natural resources available in a country. Marxist philosophy and programmes can bring down these few exceptionally high incomes but cannot bring up the standards of the masses to these heights

Study of Family Budgets and Engel's Law

Collection and analysis of actual consumption budgets or incomes and expenditures of families have been undertaken in different countries from time to time with a view to discover the actual facts and, if possible, to formulate laws or general tendencies. Such knowledge can then be utilized in improving or reforming consumption and economic life of the people. Interest in such studies has also been stimulated by the rising criticism against deductive or abstract method employed by the classical economists in the formulation of economic theory and by the emphasis now placed on inductive or statistical studies of the facts of practical economic life.

Dr. Ernst Engel, a German statistician, pioneered in this field and published in 1857 a table summarising the expenditures of a large number of German families. Since then several studies have been conducted in India. The following table gives Engel's statistics along with similar figures compiled in India :—

STATISTICS OF CONSUMPTION

Items of Expenditure	Percentage of expenditure of					
	German families of			Indian families of		
	Workingman Income Rs. 750 a year 1857	A man of middle class, Income Rs 1500 a year 1857	A man in easy circumstances Income Rs 2500 a year 1857	An average factory labourer of Bombay 1933	A Bengal villager in comfort	An average Punjab tenant 1935
1. Food or subsistence	62	55	50	46.6	60	67.9
2. Clothing	16	18	18	7.0	11	16.4
3. Lodging (Rent)	12	12	12	12.8	11	3
4. Heat and Light	5	5	5	7.1	1	1.2
5. Education & Worship	2	3.5	5.5			2.7
6. Legal protection	1	2	3			1.0
7. Care of health	1	2	3			1.0
8. Comfort & recreation	1	2.5	3.5			10.5
Total	100	100	100	100	100	100

Engel's Law. On the basis of the German figures given in this table Dr. Engel deduced the following conclusions which have been given the name of Engel's Law .—

(1) The greater the income, the smaller the relative percentage of outlay for subsistence.

(2) The percentage of outlay for clothing is approximately the same, whatever the income.

(3) The percentage of outlay for lodging or rent, and for fuel and light, is invariably the same, whatever the income.

(4) As the income increases in amount the percentage of outlay for sundries becomes greater.

We may add a fifth proposition (5) Low incomes leave no margin for saving, as the income increases the percentage of income that can be saved becomes larger.

The figures for Indian families contained in the table indicate certain peculiarities such as (a) the percentages of income spent upon clothing and lodging are lower than in Germany. This may be due to less rigorous climate of India, (b) the percentages of expenditure on different items vary not only according to income but also according to Provinces and perhaps castes due to differences of climate and dietary, clothing and types of lodgings. Thus the percentage spent on clothing in the Punjab, which experiences extreme cold in the winter, is higher than in Bombay and Bengal which enjoy more equable climate, (c) the percentage spent upon comforts in India is relatively higher because perhaps the climate does not necessitate, and Indians are not accustomed to, as high expenditure on necessities as in Europe. In other respects the Indian and German budgets of consumption are more or less similar. In both cases the bulk of the income is exhausted on necessities in the lower income groups, leaving a small percentage for expenditure on comforts and nothing for saving.

The United Provinces Government has recently appointed Investigators to collect detailed figures of incomes and expenditures of different sections of the people such as farmers, factory labourers and educated middle classes. Such inquiries in the U P and other provinces, if conducted on proper and comprehensive lines over a number of years, may throw light on such things as —

(1) Variations in the standards of living of different economic classes prevailing in different districts or regions and provinces and changes for the better or worse occurring in them over time.

(2) Relations between different types of diets such as rice and wheat and health and efficiency.

(3) Connections between incomes and modes of expenditure on the one hand and prosperity (saving), poverty (indebtedness) and crime, on the other

(4) Effect of climate on health and efficiency.

(5) Changes in cost of living and wages—in other words the effect of inflation and deflation of currency on the standards of living of different classes.

This knowledge may then be used to adjust wages to changes in cost of living and to improve the standards of living of the Indian masses. There is not the least doubt about the general standard of living in India being lower than in most of the western countries. Leaving comforts, alone diet, housing and clothing of the bulk of the farming and labouring population of the country need much improvement.

Relation between wants and efforts

Want is said to be the root of all activity in the economic as in other spheres of life, and the character of economic wants explains the character of economic activity. Want for food is stronger than that for cloth and we find food produced before cloth. Each want is satiable and we get diminishing utility from additional units of a commodity, this explains variety in production. Some wants are satisfied by more than one thing used together and more than one thing is produced together to meet the want. Wants for food, cloth and most other things recur and production of all such things goes on continuously. Wants as a whole are limitless and we have limitless economic activity devoted to their satisfaction. As man grows in civilization his desire for variety for its own sake increases and so does his desire for distinction. His capacity for food is limited but not his want for cloth, shelter and comforts of life. The result is limited production of food so far as quantity is concerned but ever increasing and varied output of dress, houses, furniture and other things.

Marshall notes that in the early stages of development man's wants give rise to his activities but in later stages it is activity that gives rise to new wants. As elementary needs are satisfied, man develops a desire for excellence in his craft and some of the otherwise most strenuous effort is undertaken not for the satisfaction of desires already felt but for the pleasure which any work done well carries with it. Much of the progress in arts and sciences is thus due to pursuit of activities rather than to the incentive provided by wants. For example, the invention of the gramophone has been a by-product of Edison's work on the telegraph. Similarly, the growth of the division of labour and the use of machinery have been due to productive activity and have in their turn led to perfection of such machinery and to further inventions and improvements in the methods of production and organization. Again, the need for many of the things we call necessities for efficiency such as wholesome food and warmer clothing has sprung up from the progress of activity. And we now have the more direct example of the activities of producers and advertisers creating and increasing human wants. However, we cannot deny that the major part of economic effort of the world is undertaken to satisfy existing or anticipated wants.

The relation between want and effort is most direct in the primitive stage in which hunger leads to the picking of wild fruit or hunting of birds and animals. It becomes more and more complicated with the progress of specialization and exchange, so that today the Australian farmer grows wool to satisfy the wants for warm clothing by people scattered over the whole world. The relative strength of hunger and thirst decided for the primitive man whether he would first pick fruit or fetch water and how much of each. The decision of the Australian farmer about producing wool or butter or both and their quantities rests on relative costs and prices of the two. If he produces more of wool and less of butter than the consumers of the world need price of wool and profits from its production would both fall and the price of butter and profit from it will rise, thus compelling the Australian farmer in his own interest to modify his productive effort according to the consumer's choice. This example illustrates two things in the free economy based on free exchange (1) the sovereignty of the consumer whose commands the producer must obey and (2) harmony between production and

consumption Under *planned economy* the free choice of the consumer will be largely restricted even though harmony between production and consumption may become more direct and *immediate* in so far as under free economy the Australian farmer takes some time in adjusting his production in response to changes in consumer's preferences. To the extent that the producer, particularly of manufactured goods, exercises influence over the consumer's choices through innumerable methods of advertisement and publicity he reduces the consumer's sovereignty even under free economy, but the final decision does remain with him. If he is induced to purchase wrong things at wrong prices his stupidity is to blame; his free choice is still there.

Progress in consumption.

Progress in the field of production consists, as we have seen, in the perfection of machinery and methods of production and distribution of goods and reduction in the cost of production to the minimum. Of course real progress means reduction in *real costs* and not merely in money costs, so that the strain on the body and mind of the producers may be lessened. Progress in consumption comprises:—

- (1) *The needed rise in the standard of consumption* of the people in general so that they will be freed from poverty, misery and the moral degradation.
- (2) *Improvement in the tastes of the consumers* so that they will choose for consumption things that promote health and happiness and shun all things which bring only momentary sensual pleasures or ruin their health and character and degrade the producers.
- (3) *Development of proper judgment* among the consumers as regards quality, quantity and price of the goods they purchase so that they may not be duped by the craftiness of the producers into purchasing bad quality and pay unduly high prices.
- (4) *Exercise of proper foresight and prudence* among the consumers, so that they will undertake enough saving to meet both foreseen and unforeseen wants of the future and to raise their economic status. This is also necessary for formation of social capital and increase in productive capacity.
- (5) *Broadening of sympathies*, so that the urgent needs of the infirm and the poor will take precedence at least over their own wants for luxuries. This, as we have seen, increases economic welfare of society as a whole.
- (6) *Harmony between consumption*,

CHAPTER XV

EXCHANGE AND ITS MECHANISM.

Exchange as a division of Economics deals with the study of (1) the *mechanism* or machinery through which wealth moves between producers and consumers on the one hand and (2) the theory of value or forces that determine the prices of goods and services. This chapter will deal, as its title indicates, with the mechanism of exchange, leaving the theory of price determination for treatment in a number of chapters that follow.

What is Exchange Exchange as one of the several *economic processes* includes a number of activities connected with the *movement of goods* from the producers to the consumers both *through space and time*. The person who purchases oil seeds in Agra and sells them in Calcutta is as much engaged in exchange as the person who buys oilseeds in May and sells them in the following December. Among innumerable varieties of exchange activities we may note the following important types :—

(1) *Purchasing* of the goods from one big producer such as a cotton mill or *collection* from a number of small farmers, (2) *Sorting* of the goods into classes or grades where necessary such as that of potatoes according to size into big, medium and small, (3) *Stocking or storing* of the goods from the time they are ready over the whole period of their consumption, particularly necessary in the case of agricultural produce harvested seasonally, (4) *Transporting* from the place of production to that of consumption, (5) *Selling* through the wholesale and retail dealers or directly to the consumers and (6) *Financing* or providing the capital required to be invested in these processes, for money has to be found between the time goods are produced or purchased from the producer and price recovered from the consumer. It may be noted that all these processes form part of production, they all create place or time and sometimes even form utility in the goods handled in so far as the value of these goods goes on rising

at every move into time and space as otherwise they will yield no profit and will not be undertaken. Each person engaged in these activities is therefore a *producer* in a very real sense. Exchanges is thus necessarily a part of the productive process

Evolution of Exchange Goods can be and were generally exchanged directly for goods in earlier economic stages. This is being done even now to some extent between nations and individuals and families within a nation. We call such exchange *barter*. But *exchange by barter* presents many difficulties. (1) *Lack of coincidence of wants* of the exchangers. It is, for example, not at all easy for the person having more grain than he requires and wanting in exchange a horse to meet immediately or in the neighbourhood another person who wants grain and has a spare horse to give in exchange. This difficulty was to some extent solved by the institution of markets, and fairs where people with all kinds of surplus goods congregated from time to time, yet it remained if only because it meant much waiting. (2) *Absence of a common measure of value*. Even if two persons, whose surpluses and requirements coincided, it became difficult to compare relative values of grain and horse. Such a common measure is now provided by money. (3) *Difficulty of dividing things like horses*. Supposing after much of higgling and bargaining it was agreed that a horse was equal to ten maunds of grain. Then if the horse owner required and the seller of grain had five maunds to sell, the horse could not be cut into two to effect the exchange. These difficulties have now been overcome through the use of money as a medium of exchange which is universally acceptable and is divisible into smallest units. Thus barter or direct exchange has now been largely replaced by indirect exchange or exchange by sale and purchase. Very often this latter is termed simply *exchange* and direct exchange is called *barter*.

Exchange, the division of labour and large scale production are closely connected, they grow together and are joined by means of communication and transport in the simultaneous onward march of the four. Ease of exchange makes specialization and large output possible, while specialization in production by individuals, groups or localities necessitates and helps the development of exchange. Posts, telegraphs, railways and steamships on their part facilitate exchange and promote the division of labour, which in their turn

make the opening and development of railways and steamships profitable enough to be undertaken. The same may be said about other factors of exchange such as banking and insurance, which promote, and are promoted by, exchange of goods. Thus we see that the progress of exchange and its mechanism is interdependent. With the improvement in the means of transport and facilities of exchange specialization has grown even in agriculture, e. g., cotton growing in the Deccan and sugarcane in the U. P.

Advantages of exchange (1) Exchange increases the productive capacity of all the parties engaged in it,—whether they are individuals, groups or nations—by enabling them to specialize in the production of goods and services in which their effort is most effective. Thus exchange helps to secure the varied advantages and economies of the division of labour and large scale production, and puts at the disposal of each party the benefits of the skill and resources—natural or acquired—and larger output of goods of itself as well as of other parties. The weaver of cloth gets more grain and the farmer more cloth per day of labour put in in their respective occupations. (2) The utility of the goods exchanged increases, each party getting more satisfaction from the goods obtained than it would from the goods parted with. Due to the operation of the law of diminishing utility, the surplus units of goods produced or possessed by a person have less utility than the goods of the others of which he has none or less. Utility of a horse to the breeder is less than that of 10 maunds of grain which he obtains in exchange. Similarly 10 maunds of grain to the farmer have less utility than a horse. (3) Exchange promotes variety in consumption and increases the satisfaction derived from a given amount of income in money or kind resulting from a given amount of productive effort. Because of the law of diminishing utility more units of any one commodity bring less satisfaction than some units of other commodities obtained through exchange. These substantial advantages of exchange benefit all parties and accrue equally, if not in a larger measure, from exchange of goods among countries possessing varied natural resources and human talent.

Mechanism of Exchange. Exchange has been likened to a bridge over which goods pass from the producer to the consumer. But it is neither so straight nor so short as the longest bridge connecting

the two banks of a river. Modern exchange mechanism contains more parts and involves more processes than those of the biggest factory we can conceive of. We have already seen the important processes involved in exchange—such as purchasing, storing, financing and others. Each of these requires a host of workers and apparatuses of different kinds, some of which here may be noted. (1) *Middlemen* Each one of the processes may be carried through by a number of wholesale and retail dealers. Thus oilseeds are collected by village traders and brought to the Mandi, from where they are purchased through Arhtias by (a) *Stockists* who sell to the oil mills which sell oil through wholesale and retail dealers to the actual consumers (b) *Exporters* like Ralli Bros. who send it to ports for shipment to foreign countries. Manufactured goods in their turn reach the consumer through a chain of wholesale and retail dealers and (c) *Speculators* who usually purchase and sell huge quantities of most seasonal agricultural products and minerals without touching a single ounce of any of the commodities they deal in and yet greatly influence their prices as we shall see in chapter XVII dealing with speculation. (2) *Weighing machinery* A large number of weights and measures have to be used at each step along the journey of the raw materials to the manufacturer and back to the consumer. Not only does an army of *Tolas* (weighers) but a number of different kinds of weighing apparatus assist in this—from the simple village balance to the spring balances commonly seen on the Railway stations and huge weigh bridges, which register weights of the whole cartloads. (3) *Grading and canning* of goods are developing fast and both public and private agencies are engaged in classifying goods like ghee so as to facilitate exchange. Perishable goods are canned or moved in cold storage vans to prevent deterioration in transit. (4) *Means of Communication and Transport* Apart from the bullock cart, the motor lorry, the Railway goods waggon and the cargo steamer the importance of whose services in the exchange of goods is so universally realized, the post office, the telephone and cable and the radio play no less an important part. Goods move after the prices have been settled and orders communicated through one or more of the means available for receipt and despatch of commercial messages. (5) *Money, Credit and Banking* We have noted how the use of money facilitates exchange. But if money in the shape of coins and notes alone were

available, trade will be greatly reduced. The greater part of the trade now a days rests not on cash payments but on credit extended by one dealer to the other and by the banks in the shape of cash credits, overdrafts, loans and bill discounting. Again the banks are instrumental in the collection of payments for goods subject to international exchange as well as those exchanged within the country. The whole thing involves the use of bills, drafts, cheques and a host of other credit instruments and documents of title. The nature and extent of money, banking and foreign exchange machinery of a country have great influence not only on internal and international exchange of goods but on consumption, production, and distribution of wealth. But the subject is by itself so extensive as to need detailed treatment and will be included, as indicated in the preface, in a separate volume devoted to it. (6) *Insurance against Fire, Marine and other Risks* is one of the most essential parts of exchange machinery, without which risks of exchange will increase and trade decline. Services are also rendered by publicity agents and foreign trade consuls which are of growing importance in the smooth course of trade. (7) *Market machinery and price*. Then there is the market mechanism through which prices of commodities are determined at a level at which purchases and sales are effected. This market machinery and the forces which limit or extend it need a little more detailed treatment than the other factors of exchange.

Market The term market in the economic sense denotes the limits of space and time within which buyers and sellers of a commodity are in touch with one another whether personally as in a particular market place or through the means of communication such as telegraphs, telephones or news bulletins over a wide area, and the price of the commodity tends to be equal. In the words of Prof Ely.* market means "the general field within which the forces determining the price of a particular commodity operate." Economically speaking the essentials of the market for a commodity are *contact among buyers and sellers and equality of price of such commodity*. Such a market may be limited to a particular place such as the vegetable market of a city or it may extend to the whole world such as the market for wheat, cotton and gold,

whose buyers and sellers, though spread over many countries, are constantly in touch through telegraphic and radio messages and are continually buying in places where prices are low and selling where they are higher.

Equality of price. Prices are thus equalized through the movement of goods from low price to high price regions just as temperature is equalized through movement of air from low temperature (therefore high pressure) areas to high temperature (therefore low pressure) areas. Of course at different points within a market price of the commodity may differ to the extent of the cost of transport including insurance, brokerage and bank commission and of course export and import or octroi duties, if any, payable by the purchaser. Thus if cost of transporting a maund of wheat between Cawnpore and Agra is Re 1, the price at the two places cannot differ by more than a rupee per maund. So long as the difference is wider it will remain profitable to purchase at one place and sell at another, and this will in due course equalize price. It is of course essential that difference in prices ruling at consuming and producing centres should remain higher than cost of transport to allow constant movement from the latter to the former centres. But the difference is narrowed by competition to the minimum necessary to induce traders to undertake continuous movement. Thus price of wheat in Bombay should always be higher than, say, in the Punjab.

Space and Time Markets. Just as the market for a commodity may extend over a smaller or wider area it may also extend over a shorter or longer period. Price at different places or localities within the area of the market is equalized through movement of goods from low to higher price points in space, price at different points in time may be equalized by purchasing at a time when price is lower and selling when it is higher. Thus most traders purchase wheat (or other commodities) immediately after harvest, store it and sell it throughout the season until the next harvest is ready. And this, as we shall see in the chapter on speculation, is more extensively done by the speculators who undertake such transactions called *time dealings* or '*futures*' at the smallest margins and thereby narrow down to the minimum the difference in prices of wheat ruling at different times of the year. Of course, the difference in price ruling at

different points in time may persist to the extent of costs of storing, including deterioration, wastage, interest on capital, insurance premium against risks of fire etc., which really constitute the cost of 'carrying' wheat or any other commodity from one time to another. Without the existence of such a difference storing for supply during off seasons will become unprofitable and will not be undertaken. This is, of course, true only in the long run, temporarily price at harvest time may be higher than later in the year.

Space markets may be classified into local, national or international according to the area within which price of a commodity is more or less the same. According to time, throughout which the price of a commodity remains the same, markets may be classified into daily, short period and long period markets. It should be noted that the market for a commodity may extend into both space and time. Thus the market for wheat is not only world wide, it also extends over, say, a whole year through speculative dealings.

Short and Long period markets. Market refers, as we have noted, to the space and time within which forces determining price of a commodity have free play. The strength and action of these forces differ according to the length of the period available for their operation. Dr Marshall has divided these periods and the respective prices they govern into four classes. (1) *Daily or very short period market* during which supply available is restricted to the stock already existing. It cannot be increased in any case during the day or period considered and of course it cannot be withheld if the commodity is very perishable such as fresh fish. Supply is then absolutely inelastic but changes in demand can and do occur. Under such conditions price rises if demand increases and falls if demand decreases irrespective of the cost at which fish is produced or brought to the market. Such a price is termed the *market price*. (2) *Short period market and sub normal price*. Short period refers to the relatively longer time in which supply can be increased if price is higher than cost with the *existing stock of appliances of production*, including specialized capital and labour, by their working over time. Thus high price of fish will induce more catch per day through longer hours devoted to fishing by the existing nets and fishermen. If, on the other hand, demand and price of fish remain low nets and

fishermen will work shorter hours but not leave the occupation altogether, so that supply will be reduced to some extent. The price will thus conform to cost more closely (but not fully of course) during the short period than during any one day, and such a price may be termed *short period* or *sub normal price*, and the market extending over such a period is *short period market*. (3) *Long period market and normal price*. 'Long period' is taken to mean that period of time during which supply can be fully adjusted to the changes in demand for a commodity and the price therefore conforms fully to the normal cost or normal supply price. This full adjustment in supply is brought about by increase and diminution not only in the output but also in the capital and labour engaged in producing or in what are called the agents or factors of production. Taking again the example of fishing industry, nets and fishing boats can be increased and sufficient number of persons trained to use them properly during the 'long period' if the short period or sub normal price happens to be higher than normal cost or price during that period. If, on the other hand, such sub normal price is lower than the normal cost, some nets, boats and fishermen will move to other occupations, and daily catch or supply will thus be reduced sufficiently to bring up the price to the level of normal cost. The price in the long period market thus conforms fully to the normal cost and is called the *normal price*. (4) *Secular market and price*. Then during a still longer period, say, a generation, *changes in demand* such as those caused by variations in output of gold, growth of population and alterations in its tastes, and *changes in costs and supplies* caused by progress in science, invention of machinery and improvement in the methods of production and transport or by exhaustion of mineral deposits, have enough time to get fully adjusted to each other and the normal cost and normal price themselves move downwards or upwards according as costs fall or rise. Market extending over such a period is the *secular market* and price tending to prevail in it is the *secular price*.

It may be noted that there cannot be any sharp line of division between these four different periods and their corresponding prices, there is constant continuity, one merging into the other. Again the lengths of these periods cannot be fixed absolutely in days, weeks or years for all industries. What is long period for fishing industry may be just the '*very short period*' for cotton manufacturing industry.

The lengths of these periods thus differ from industry to industry according to the time taken in increasing and reducing output and the appliances of production themselves. The larger and the more complicated the nature of specialized machinery and skill needed in an industry the longer is the period required to bring about full adjustment and vice versa. For example, the supplies of sweetmeats like laddus and jalebis and of the apparatus of their production such as pans and spoons can be increased and reduced easily within perhaps a few days or at the most a few weeks. An understanding of these different periods and prices is necessary for the proper grasp of the theory of value developed in the chapters that immediately follow.

Factors governing the extent of the markets for different commodities The extent of the market for a commodity is governed by the following factors both as regards space and time (1) *The nature of demand.* Commodities which are universally demanded have a wide market such as gold, wheat etc , while those like Turkish caps or dhooties have a market limited to the area where their demand exists. These two things are used mostly in India and their market is limited to this country even though they are produced in other countries and sent to India. Similar is the case with ghee, though it is also consumed in some of the adjacent countries to which Indians have migrated. Its production is, however, confined to India from where a little is exported to those countries. The extent of the time market for commodities demanded for a short period as during coronations and deaths of kings is naturally short. So also is the case with those having seasonal demand such as woollen cloth.

(2) *The nature of supply.* Commodities produced in large quantities under increasing returns or diminishing costs, such as most manufactures, have a wide market, as it is more economical to produce them at one place and distribute them over a large area than to produce and sell locally in small quantities. Such is also the case with commodities which have wide demand but can be produced in a few places only due to natural causes such as occurrence of suitable soil and climate and mineral deposits being confined to those places.

(3) *Durability.* Other things being equal, the more durable a commodity, the wider the market it will have both as regards space and time. On the other hand, perishable commodities like

fish have a local market. Dried fish being more durable has a wider market. For the same reason ghee has a wider market than milk. Perishable commodities cannot stand the time taken by transport over long distance. Freezing and cold storage are now tending to extend markets for such commodities.

(4) *Portability or Value in relation to bulk and weight.* Things having high value in small bulk, like gold, have a wider market, while in the case of heavy goods having small value such as bricks, the market is limited. This is because the cost of transport in their case is so high as to make their price prohibitive beyond a certain distance or at any rate it becomes higher than the cost of producing them locally.

(5) *Cognizability or Ease with which a commodity can be purchased and sold from a distance by mere description.* Thus goods of uniform quality like gold or those possessing well-defined grades such as cotton, wheat, butter, wool, have a wider market than goods like ghee whose inspection before purchase is necessary. Grading of ghee by government Inspectors with 'Agmark' seal is expected to extend the market for ghee over a wider area.

Several factors have recently extended the markets for commodities in general. The quick and cheap means of communication and transport have reduced the costs of transport and made possible the transport of perishable goods over long distances. They have really enhanced durability and portability of goods by quickening speed and reducing cost of transport. Similar has been the effect of freezing, canning and cold storage of perishable goods. Thus salted meat and butter have now a much wider market than they had before these processes were introduced. Banking and insurance facilities have also extended the markets in general, as they have facilitated payments and reduced costs and risks of long transport respectively. Progress in means of communication and transport and extension of advertisement have tended to standardize tastes throughout the whole world and uniformity of machine made goods has in its turn fed and strengthened these tastes. Thus tinned foods, cosmetics, medicinal drugs, safety razors and innumerable manufactured goods of other types have a world market. Adoption of the gold standard or its variant, the gold Exchange standard, almost throughout the industrially

advanced countries during the last quarter of the 19th century extended very largely international trade by stabilizing the exchange rates and reducing the risks and therefore costs of imports. Free trade policy adopted by Great Britain and adhered to even now by most countries in regard to food grains and raw materials has extended the markets for raw produce throughout the world.

However certain factors tend to *restrict or limit the width of the markets* for commodities they affect. Most obvious are direct restrictions such as prohibition of imports, fixing of quotas or quantities of certain commodities that can be imported from other countries. Similar effect is produced by exchange restrictions such as now operate in India and other countries in regard to very restricted availability of dollars for payment of goods imported from America and other dollar area countries. Markets are also restricted by imposition of new customs duties, enhancement of the rates of old duties, and increase in the costs of transport and insurance such as always occurs during war time. National or internal markets are themselves narrowed by restrictions on movement of commodities from one district or region to another. Such restrictions on food grains, cloth, gur and many other goods have been common in India since the last war started in 1939, many are still continuing. Transport bottle-necks or scarcity of railway waggons available for moving commodities from places of plenty and low prices to those of scarcity and high prices have worked in a similar direction. It is these factors which explain wide differences in prices of the same commodities prevailing in different parts of the country.

Perfect and Imperfect Markets. Equality of price of a commodity being an essential criterion of a market, such price equality and what ever brings about such equality most easily and quickly are necessary characteristics of a *perfect market*. Existence and free exercise of competition among buyers and among sellers are therefore essential. To the extent that competition is impeded and price differences persist market is *imperfect*. Perfect and imperfect markets are thus directly the results of perfect and imperfect competition.

A perfect market for any commodity connotes several things. There must be many buyers and many sellers competing with one another for purchases and sales of the same commodity. Secondly,

the competing buyers and sellers must be fully aware of the market conditions and freely buying and selling without any restrictions from outside agencies or hesitation from within. Thirdly, as a result of the above conditions, the same price must rule for the same commodity at the same time throughout the market.

Thus a perfect market is necessarily one in which all the buyers and sellers are in free intercourse, either personally as in a local market or by means of telegraphs and telephones, which facilitate quick communication of prices and orders and by means of cheap and quick means of transport which assist deliveries of goods sold and purchased. Further the commodity dealt with must possess extensive demand and supply, be of uniform quality or grade so as to be capable of being purchased by description only, must be durable and portable, that is, the cost of transport must not be prohibitive. The best examples of perfect markets are the various exchanges such as the stock and cotton exchanges of Bombay, where buyers and sellers are in the closest communication with one another and costs of transport are almost nil. All shares of a company of the same class and all the bales of cotton of any of the common grades are of course exactly alike.

An *imperfect market* is one in which price differs because competition is *imperfect*, which has been defined as "competition between sellers under such conditions that the individual seller is able by his own actions to exert some influence upon the market price."¹ Such influence of a single seller may arise under three conditions.—

(1) A retail market is more imperfect than a wholesale one because the average consumer is less careful than a wholesale or retail dealer about paying the correct price for the quality he is buying. Individual purchasers usually buy from the nearest or customary shop, few of them undertake inquiries every time they buy their requirements. The market for second-hand books is imperfect for this reason and two or more purchasers of the same book may pay entirely different prices to different or even the same dealer².

(2) Growth of trade marks and special brands, particularly of manufactured articles, easily allow different prices to be charged for

1 Economics Fairchild, Furness and Buck p 151

2 See Benham Economics [Second Edition] p 26

more or less similar articles produced by different firms. Advertisement influences the minds of the consumers, who become willing to pay higher price for particular brands they become familiar with. In a sense such articles partake of the nature of monopolized commodities as we shall see later.

(3) *Restriction of competition to a few big sellers.* Out of the millions of farmers who produce cotton no one can raise the price of his cotton by reducing his output. But one of the four or five producers of cement can raise to some extent, even though small, the price of their own make by reducing output. Thus the more imperfect the market the greater is the power of the individual seller to charge higher price for the part of the total output supplied by him in the market as a whole. Where there is a single seller or *monopoly* competition is entirely absent and the power to raise price is greatly increased.

Value and Price No exchange transaction is possible until relative values of the goods exchanged are evolved and agreed upon between the parties concerned. The process through, and the space and time limits within, which the values of commodities get fixed up constitutes the market mechanism which has already been described. The actual point at which the value of a commodity settles is determined by the relative strengths of their respective forces of demand and supply and constitutes the subject matter of the remaining chapters of Part IV of the present volume. As values of commodities are nowadays almost universally determined and expressed in terms of money which we call *price* it is necessary here to have as definite an idea as possible of the relation between value and price.

The term *Value* is used in the sense of utility when we say air is of great value to human life. When used in this sense by economists it is generally indicated by the expression *value in use*. Ordinarily value stands for *value in exchange*, which means value of one commodity in terms of other commodities. It shows the relationship between the values of two or more commodities. For example, if one maund of rice exchanges for two maunds of wheat the value of rice is double that of wheat and of wheat half that of rice. The same relationship is indicated by the prices of such commodities.

For example, if the price of wheat is Rs 25 per maund and that of rice Rs 50 per maund, the relationship between values of wheat and rice is the same as before. Thus value and price are identical. Use of money and expression of values of all commodities in terms of prices at once establishes a precise relationship between their values and facilitates exchange.

Prices of things thus indicate their values, and the difference between prices of two things measures the difference between their values. Yet the difference in prices does not necessarily indicate difference in utility, usefulness or value in use. Ghee is decidedly more useful than opium to human life yet the price of opium may be fifty times higher. Another important point to be noted is that a rise or fall in the price of a commodity does not necessarily mean a rise or fall in its value as compared to another commodity unless the price of that other commodity does not change or changes in the reverse direction. For example, if the price of rice rises to Rs 100 from Rs. 50 and of wheat to Rs 50 from Rs 25 per maund their relative values are still the same. When there is inflation, as it is in India and so many other countries just now, prices of commodities in general rise but not their values. Again, a general fall in prices consequent on deflation does not mean fall in values.

Value or price is of great significance in a free or competitive economy. The price of a commodity regulates and harmonises consumption, production, exchange and distribution of wealth, which means in effect all kinds of economic activities. Thus high price of a commodity reduces consumption and stimulates production and corrects its own cause, namely, excess of consumption over production. A low price stimulates consumption and reduces production and brings about balance disturbed by relatively large output and low consumption. Further, higher price of a commodity in one locality than in another explains all the varied kinds of exchange activities, connected with the movements of such a commodity, and it influences distribution by raising the incomes of the people engaged in its production, increases their consumption and leads to the mobility of labour and capital to it from other localities or trades.

The important problem that now arises is how value is determined and demands answers to such questions as why is the price of ghee

what it is and why is it lower than that of opium inspite of its decidedly higher utility to human health and happiness ? Similar questions apply to other commodities and to their price differences and even to incomes. Answers to these questions comprise the theory of value, which forms the central problem of economics. It is treated in the chapters that immediately follow. The same theory applies to incomes of all kinds—rent, wages, interest and profits—which are after all prices of the services rendered by their recipients or by the property like land, mines and machinery they own. Determination of incomes is, however, treated under 'distribution' which forms a separate division of economic theory.

CHAPTER XVI

DETERMINATION OF VALUE

Demand and Supply

The popular idea that price is governed by demand and supply embodies the essence of the theory of value. But a great deal of analysis and synthesis of the forces of demand and supply are necessary for a proper understanding of the precise manner in which demand and supply determine value. The whole of this chapter is concerned with the explanation of the relations between demand, supply and price.

Each of the two terms demand and supply are used to denote two distinct things. (1) *Demand* may mean the quantity people are *prepared to purchase* at a given price, supply may similarly denote the quantity of a commodity its holders are willing to sell at a given price. Demand and supply in these senses do not govern but are governed by price. If the *given price* rises demand decreases and supply increases, if it falls demand increases and supply diminishes. Very clearly then it is the price that determines quantities demanded and supplied.

(2) But the terms are used in another sense—a sense in which they do govern price. Demand also means the *willingness* of a person or a group of persons comprising the likely buyers in the whole of the market for a commodity to pay a certain price per unit for the quantity available. In this sense demand really denotes *demand price* which, as we shall see presently, determines the price given the quantity that sellers put in the market. The larger this quantity is, the lower is the demand price per unit and vice versa. Similarly the term supply may also denote the willingness of one or more sellers in the market to accept a certain price per unit given the quantity that purchasers want, and in this sense supply means the *supply price*. Supply price is usually higher, the larger the quantity buyers want to purchase at any given time.

Both demand price and supply price affect the market price of a commodity in the manner explained a little later under the heading

According to it the larger is the amount of a commodity supplied or offered in the market the lower is its demand price and vice versa. Given the supply, there is some one price at which the whole of it can be disposed of. Such a price has been termed by Prof. Taussig as *marginal vendibility** which increases with a reduction in supply and decreases with an increase in supply. *Theoretically* and even in practice the price obtained per apple in a local market on any day will be larger if 1000 apples are offered for sale than if 1100 apples are so offered. Marginal vendibility, it may be noted, refers to the whole market while the term marginal utility refers to an individual consumer. Both are of course directly connected, the former rises or falls because the latter rises and falls. Wherever supply is fixed as in the case of fresh vegetables or fish already brought to a market, marginal vendibility or demand price governs the market price, no influence being exerted by supply save that of the fixed quantity it represents.

The important point to be noted here is that *demand price* governed as it is by marginal utility determines the price ruling in the market, *demand* itself, denoting quantity that will be or is actually bought, is determined by the market price. The higher is the market price the lower is the demand and vice versa. Thus we may say "demand price (or sometimes marginal utility which governs it) determines the price of a commodity and its price determines the demand for it". Such explanation of value or price in terms of utility has been called the utility theory of value. It was developed by W S Jevons in England and certain Austrian Economists, who denied the influence of cost of production on price as an active force. The theory shows how utility or demand governs price. But we also see that *utility* determines price on the basis of scarcity or supply taken to be granted. Had the supply been more plentiful price would have been lower, had it been smaller price would have been higher.

Cost of Production Theory of Value

We may now see the relation between scarcity and supply and their influence on value. Certain things like land surface are scarce by

*Prof. Prof. Brij Narain calls this 'social marginal utility'. See his 'Principles' p 47

Bay Scheme did not fetch even a small part of the cost of reclamation. Again many seasonal goods sell below cost when the season is over. Such 'clearance sales' are quite common. Such prices are easily explained by utility. (3) Values of certain goods may be equal to costs immediately they are produced, but they change later on. For example, the prices of old houses, machines and many other durable goods are much higher now than their costs. Such prices are also liable to fall much below costs during periods of depression. (4) It is impossible to estimate separate costs of goods produced jointly and their prices, as we shall see, depend entirely upon their marginal vendibilities. (5) Apart from the difficulty of estimating the costs in labour and even in terms of money and relating them to prices, costs of production of most commodities are just prices of the various agents of production engaged in their production. The cost of producing a fountain pen is the total of the prices of raw material, labour and capital used in manufacturing it. "Thus to say that value in general depends on the cost of production is to say merely 'that one value depends on other values, which depend again on other values, and so on in a circle.'"* The theory is, however, useful in understanding the influence on price of supply and of the human effort required to put a given supply on the market.

The marginal Utility Theory of Value stands the test of examination much better than the cost of production theory. The former explains high values of goods with no or low cost and no or low values of goods produced at high costs, it also explains rise and fall in values resulting from reduction and increase in supply. Marginal utility and therefore price falls with an increase in supply. Both rise with a diminution in supply. It is of course true that the individual consumer purchases more when price is low and less when it is high. It is the price which determines his demand, his demand does not appear to influence price. Yet it is the strength of the aggregate of the demands of all the purchasers in the market that decides the price. Here it may be noted that to some extent the marginal utility of the seller also enters into the determination of price. As price falls due to any cause the seller will tend to use the commodity himself rather than sell it if and when he finds that the utility of one or more units to him is greater than

the utility of the money obtained as price. This can, however, apply only in the case of sellers of small quantities, part of which they can use. Even the prices of raw materials and machines, interest on capital and wages of labour are explained by the utility theory. The marginal utility of the goods they produce determines their prices though some what indirectly. A rise in the price of cotton cloth raises the prices of cotton and coal, wages of labourers and the price of spindles and looms and interest on capital invested in them. According to the advocates of the utility theory, it is marginal utility, as reflected in price, which regulates production and determines cost of production. In initiating, increasing or reducing production of a commodity the producers base their decisions on estimates of price (governed as it is by marginal utility) they will be able to obtain. Production is pushed to the point where price equals marginal cost. If price is higher production is increased until marginal cost just equals price, if price is lower than cost production is curtailed until marginal cost equals price as determined by marginal utility.

The superiority of the utility over the cost of production theory is due to the fact that the latter ignores the demand side while the former takes account of both demand and supply including changes in supply caused by changes in costs of production. The cost theory confines itself to the side of supply and does not take account of utility of the goods and changes in it. The generally accepted modern theory of value is the *equilibrium of demand and supply theory*, which combines both the theories and arrives at a more accurate and universally applicable principle of value determination. It is interesting to note that some economists hold that the utility theory is only another way of stating the demand and supply theory of value. According to Prof. Taussig "The same proposition, (that given the supply the value of a commodity is determined by its marginal vendibility) regarding the mode in which the value of an article at any given time is determined, was stated by the old writers in a somewhat different way. They said that market value was settled by the equation of demand and supply¹" Prof. Clay goes further and says "the Marginal Utility theory is only a more exact statement of the principle that value depends on supply and demand"²

that of supply the shorter is the period allowed to supply to change. As the length of time increases the influence of supply grows stronger and stronger until it predominates over a period sufficient to allow supply to be adjusted fully to the changes in demand and price. The statement of the theory of value which follows assumes two sided competition, but is applicable to other conditions with necessary modifications.

The Law of Demand and Supply

The theory, which explains the determination of value of commodities in the best possible manner yet known to students of Economics and which is therefore generally accepted, is the law of demand and supply, according to which *value or price of a commodity at any time is settled by the equation of demand and supply*. In other words, the price gets fixed at a point at which the demand and supply of the commodity concerned are equal in quantity. These few words contain the essence of the theory but many words are needed to explain its full significance.

Price of course is easily seen to mean the amount of money per unit of a commodity at which purchases and sales take place at a time. *Demand* means the quantity that will be bought at a price. It varies, as we have seen, with price, increasing with a fall in price and diminishing with a rise in price due to changes in marginal utility. This behaviour of demand to change with price we call the law of demand. *Supply* means the quantity that will be supplied or offered for sale at a certain price. It should be distinguished from *stock*, which denotes the whole quantity of a commodity existing at a time in the market. Supply is only that part of the stock which is being definitely offered for sale at a certain price. Supply in this correct sense also varies with price in a competitive market but in a direction reverse to that of demand, diminishing with a fall in price and increasing with a rise in price. The higher price induces the sellers to sell more, in fact even those holding surplus stocks for future consumption are sometimes tempted to sell. A fall in price invariably tends to reduce the quantity offered for sale. This tendency of supply to vary with price is called the law of supply. Thus we see that a change in price affects both supply and demand.

Demand, supply and price of a commodity are then interdependent, each affecting the others. They govern each other mutually. Demand and supply influence price; price influences demand and supply. The interaction of the two opposing laws of demand and supply at different prices at a given time determines a position of *equilibrium* or rest in which demand and supply at a certain price are equal and there is no cause left for either of the three to move from their positions. Of course such equilibrium may be temporary extending over a few days, hours or just minutes, or it may be more permanent and endure for months, years or more. Price is stable so long as equilibrium lasts. It changes as soon as equilibrium is disturbed through a change in supply or demand. How these forces work and how price is settled and demand and supply equated may be illustrated by the following demand and supply schedules and curves —

**Demand and Supply Schedules for, say, Apples
in a local market,**

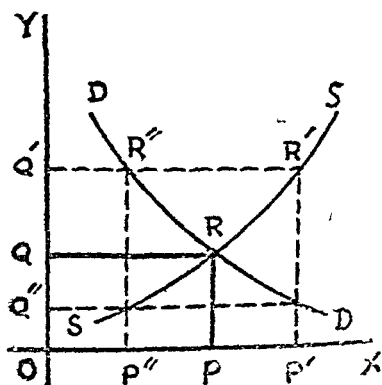
Price in Rupees per seer	Quantity demanded in seers (Demand Schedule)	Quantity supplied in seers (Supply Schedule)
1	5000	600
2	4000	1000
3	3000	3000
4	2000	4000
5	500	5000

In this table we see how demand decreases and supply increases as price of apples rises from Re. 1 to Rs. 5 per seer. Or if we start from the bottom upwards we find that demand increases and supply decreases as price falls from Rs. 5 to Re 1 per seer. The demand and supply schedules combined in the same table very clearly illustrate the law of demand and the law of supply respectively. We also see that at the price of Rs. 3 per seer the quantity demanded and the quantity supplied are equal, viz. 3000 seers. It is this price that will prevail in the market, at any price lower than Rs. 3 demand will be greater than supply which means that the demand of some purchasers will remain unsatisfied and the price will therefore tend to move towards and settle at Rs. 3, at any price higher than Rs. 3

demand will be less than supply, so that some sellers willing to sell at Rs 3 will not be able to sell and the price will therefore tend to fall and continue to do so until it becomes Rs. 2 when it will become stable. Thus we see that the positions of the price at Rs. 3 and of demand and supply at 3000 seers each represent equilibrium of the three economic factors or forces. So long as the conditions supposed in the schedules prevail this equilibrium will continue, that is, the price will stay at Rs 3 and demand and supply will remain 3000 seers each. Every seller willing to sell at Rs.3 will find purchasers and every purchaser ready to purchase at that price will get all that he wants. Purchases and sales will thus run smoothly. At any price lower or higher than Rs 3 there will be disequilibrium and movements of price towards Rs. 3 and of demand and supply towards 3000 seers will continue until equilibrium is again restored.

If and when any of the conditions change equilibrium will be disturbed causing changes in all the three—price, demand and supply. Sooner or later a new equilibrium will again be reached with such adjustments in the three factors as will make the demand and supply equal at the new price. Supposing, for any reason such as a larger quantity of apples arriving on any day, the supply offered at Rs. 3 is 4000 instead of the usual 3000 seers, the price will tend to fall to Rs. 2 at which alone 4000 seers can be sold, conditions of demand remaining unchanged. On the other hand, if the supply arriving on a day is only 2000 seers the demand of some purchasers willing to purchase at Rs 3 will remain unsatisfied. They will be inclined to bid higher prices, the sellers will also come to know of the situation and are likely to wait for higher price. Thus the price will be raised to Rs. 4 at which demand and supply will both be 2000 seers.

The above mentioned course of changes in demand, supply and price, may also be illustrated by the following diagram which combines like the preceding table the two laws of demand and supply —



Price is represented along OY and demand and supply along OX. Both demand and supply are here seen to be equal to OP at price PR or OQ. At any price other than OQ demand and supply will not be equal and the price will therefore tend to move towards and settle down at OQ, at which alone, according to the conditions supposed to be existing in the market, demand and supply will be equal and the price, demand and supply will be in equilibrium. For example, at price OQ' demand will be OP'' and supply OP', at price OQ'' demand will be OP' but supply will be only OP'' Neither of the two prices OQ' and OQ'' can therefore be stable.

Changes in Demand and Supply.

Changes in demand and supply are of two *distinct types*.

(1) *Changes caused by fluctuations in the price of a commodity.*

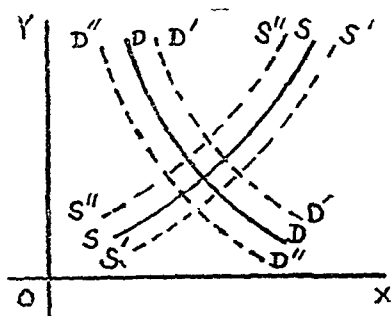
An increase in demand or supply of this type has been termed *extension*, while a decrease in demand or supply may be called *contraction*.

(2) *Changes that occur independently of changes in price.* Such

changes have been designated *increases* and *decreases* of demand or supply. However there is no common agreement over the use of these terms in these definitive senses, and in most text books as well as in this the terms increase and decrease have been used for both types of changes. What is meant by them at any place has to be inferred from the context. Both types of changes are of significance in the determination of value, but their roles differ. The *first type of changes* are illustrated by the demand and supply schedules and curves given previously in this chapter while explaining fixation of price of apples in a market. Reference to the table and the diagram containing the schedules and the curves will show that increase and decrease in demand and supply are here caused by changes or fluctuations in the price of apples. Being themselves effects of price changes such increases and diminutions do not produce any further effect on price. For example, if price falls from Rs. 3 to Rs. 2 demand increases to 4000 from 3000 seers. This increase of 1000 seers in demand will not raise the price, it is the result of the fall in price from Rs. 3 to Rs. 2. The same fall of price is seen to reduce supply from 3000 to 1000 seers, but the resulting reduction of 2000 seers in supply will not now raise the price, being itself an effect of the fall in price. However there is no doubt about the definite influence of demand and supply on price. The market price is Rs. 3 because the

supply of 3000 seers has a marginal utility equal to Rs 3 and also because the marginal cost of that output per day is Rs 3 supposing the equilibrium to be normal at this price. Even if the equilibrium is temporary the demand price is Rs. 3 because supply is just 3000 seers, it will be different if supply were more or less than 3000.

Changes of the second type are the results of independent causes and have their own effects on price. Thus, an *increase* in the demand of this type means that at every price given in column one of the schedule the quantity shown against it in column two will be larger than that contained in the table, a fall in demand would mean that the quantity demanded at each of the five prices will be less than that shown against it in the table. Taking now the supply side an increase or decrease of this type in supply denotes that at each of the price in column one the quantity shown against it in the supply schedule in column three will be larger or smaller than the quantity contained in the table. The nature of such changes as these may be made clearer by the following diagram —



In this graphical figure price is shown along OY and quantities demanded and supplied along OX. The curves DD and SS represent normal demand and supply curves. Increases in demand and supply are represented by dotted curves D'D' and S'S' respectively. Decreases in demand and supply are shown respectively by the curves D''D'' and S''S''.

The distinction between these two distinct types of changes resolves some of the common economic fallacies. For example, it may be argued :—

(1) An increase in demand raises the price, rise in price reduces the demand, therefore no change can take place in the demand. Both the premises are correct and yet the conclusion is wrong because the rise in price resulting from increase in demand does not reduce demand. Rise in price that reduces demand is one that is caused by contraction in supply. Similar reasoning will help in resolving other fallacious conclusions that follow.

(2) A fall in price reduces supply, reduction in supply raises the price, therefore price cannot change.

(3) A rise in price reduces demand, a reduction in demand lowers the price, original price is therefore restored.

Causes and Effects. An increase in the demand for a commodity, denoting that people are prepared to purchase more than before at each price, may be caused by an increase in money incomes, expectation of a rise in price or by cultivation of taste or disappearance of substitutes for the commodity. Supply being given, the effect of such an increase will be to raise the price. Demand may fall off i. e. less may be purchased at each price, due to decrease in money incomes, the commodity going out of fashion, appearance of cheaper substitutes or anticipation of a fall in price. Again the supply conditions remaining the same price is bound to fall to allow disposal of the whole supply*. Now take the supply side. An increase in the quantity offered at each price may be caused by discovery of new sources of supply, or improvement in the methods of production or transport and reduction in cost and supply price, or expectation of a fall in price of the commodity. Demand being given, the effect will be to lower the price so as to clear off the increased supply. Diminution in supply at the current price may be caused by exhaustion of soil or mineral deposits, increase in customs duties and costs of transport or even anticipation of a rise in price. Diminution in supply will raise the price in so far as marginal vendibility of a smaller supply is higher. All these effects may be clearly seen in the diagram. Any change in demand or supply gives rise to a new curve and causes a change in market price at which a new temporary equilibrium is established immediately because of the relative inelasticity of the supply. The new price then creates forces that move the price and

*For detailed causes refer to Benham Economics p 69 77

the equilibrium towards the *norm*. It may be noted that changes of this type in demand and supply may be temporary or more enduring. In the former case the market price and equilibrium will become normal without affecting the supply as soon as the change disappears ; in the latter case adjustments in supply will be initiated and the return of the price and the equilibrium to a new position of *norm* will take time.

Elasticity of demand and supply. Demand is always elastic but not so the supply over a short period and still less at a given time. The result is that the shock of a change in both demand and supply is borne immediately by demand. Thus disturbances to equilibrium from the side of supply get easily adjusted. An increase in supply lowers the price and increases the demand, a diminution in supply raises the price and reduces the demand. Both increases and decreases in supply are thus easily and quickly absorbed by the demand through the medium of price changes. But when demand increases or decreases supply does not respond immediately but takes time, so that supply being fixed (1) if demand increases price rises and demand itself becomes restricted to the available supply, and (2) if demand decreases price falls and demand expands to the extent necessary for the whole of the fixed supply to be absorbed.

Time Element in Value Theory.

Some indication has already been given of the fact that any position of equilibrium and the price settled under it may be only temporary or more enduring. In a local market on any day the forces of demand and supply *as they exist* determine the price at which quantities demanded and supplied are equal. It is this price at which purchases and sales actually take place in the market, and which is therefore termed the *market price*. Such a price invariably equals the demand price based on *marginal utility* of the supply offered or actually sold in the market. This is particularly the case where supply in the market happens to be absolutely *fixed* and must be sold at any price it will fetch irrespective of the cost of production. Such is the case with commodities like green leafy vegetables and fresh fish whose stock and supply are identical. No stock can be withheld because of low price and there is no surplus stock from which supply can be increased because of high price. If

demand on any day increases price rises, if demand diminishes price may fall to very low levels. Similar may be the case with things like old and rare paintings or books, auctioned at the best price obtainable. All such goods and land, which has no cost of production as such, fetch prices according to marginal utilities of their respective supplies put unreservedly in the market. In all such cases the supply curve will be a vertical line, representing supply to be entirely fixed and insusceptible to price changes. These are examples where demand has the predominant influence in the determination of price. Yet it cannot be said that supply has no influence. Supply, though fixed, plays its part like the stationary blade of a pair of scissors of the famous example given by Dr. Marshall. The moving upper blade seems to do all the cutting but a little reflection shows that it does so with the help of the lower blade that is there though stationary.

However the market price determined thus by demand alone may be lower or higher than the supply price or marginal cost of the given supply. Whenever this is so equilibrium is said to be *temporary* because the supply at the prevailing market price cannot be stable. It is what it actually is even at a price lower than marginal cost because it is not possible for sellers to keep it back due to perishability or perhaps to their urgent personal or business needs for money. In any case it cannot be increased to any appreciable degree even if the price is much higher than marginal cost.

In course of time, however, supply is reduced in the former and increased in the latter case until price and marginal cost coincide. When that happens equilibrium is said to be *normal* or *permanent* and the price at which such normal equilibrium exists is known as the *normal price*. It may be noted that market price never deviates from demand price as determined by marginal utility of the supply but it may deviate from the supply price as determined by marginal cost. Thus when the price equals or coincides with the supply price it automatically equals the demand price, which means that it is equal

*This fact is commonly expressed in the words "cost of production determines value in the long run" which raises controversy as to whether value moves towards cost or it is cost that moves towards value through appropriate changes in output and supply. Changes in costs consequent on changes in output induced by changes in demand and market price support the latter view. This controversy can be avoided by saying "Cost of production and value coincide or tend to coincide in the long run."

to both marginal utility and, marginal cost Demand being then taken to be stable there is no cause left for the supply to vary and for the price to change. The market price and the normal price coincide. The concept of the *normal* in this sense is well summed up by Dr. Marshall in the following words* —

"When the demand price is equal to the supply price, the amount produced has no tendency either to be increased or to be diminished, it is in equilibrium. When demand and supply are in equilibrium, the amount of the commodity that is being produced in a unit of time may be called the *equilibrium amount*, and the price at which it is being sold may be called the *equilibrium price*. Such an equilibrium is *stable*, that is, the price, if displaced a little from it, will tend to return, as a pendulum oscillates about its lowest point, ———"

Short and Long periods The market price, to the extent that it deviates from the normal price, is continually chasing, as it were, the normal price and thus temporary equilibrium is constantly tending towards the position of normal equilibrium. But adjustment takes *time*. Over a long period adjustment in output and supply is complete and normal price tends to prevail. Over a short period some adjustment does take place but it is incomplete. The market price does however move even during the short period towards the normal price.

Short period, according to definition, means the period in which output is increased and reduced through longer or shorter hours being worked by the *existing* appliances or factors of production of a commodity in the shape of machinery and other material equipment and labour force. We have already seen in Chapter XII that marginal cost of production during such a period is higher than what it would be in the long run whether the supply is increased or reduced and whether the commodity is produced under diminishing, increasing or constant returns. If output is increased it is the prime cost in the shape of overtime wages and cost of raw material that rises, when output is reduced it is largely the supplementary part of the total cost that rises. The cost per unit at which the marginal output is being

produced during the short period constitutes the normal supply price during such period, it may be termed the *sub-normal price* to which the market price tends to conform. As the bulk of the supplementary costs have to be incurred during the short period the prime cost alone may be said to be the sub normal price about which therefore the market price oscillates. During the long period, as we shall presently see, the normal supply price covers the total cost of the output, including both the prime and supplementary costs. In this sense "the general drift of the term normal supply price is always the same whether the period to which it refers is short or long, but there are great differences in detail."

Long period denotes the period of time which is sufficient to allow the output to be increased or reduced *fully* to meet the deviation of the market price from the supply price, so that the former conforms to the normal price over the long period. This full adjustment of output is brought about by appropriate increase and diminution in both material and immaterial appliances or factors of production typified by factory buildings and machinery and the labour force requisite to the new volume of output. Thus it is that price *in the long run* tends to conform fully to the supply price or marginal cost of the output produced and put in the market for sale during the period. This shows how "the influence of utility on value preponderates during short periods, but that of cost of production in the long run." We have of course seen that the length of the short and long periods differs from commodity to commodity according to the time required for full expansion and contraction of its factors of production.

Normal price in relation to dynamic state. We have seen how market price is constantly moving towards and approaching the normal price. But in a dynamic society the two may never become identical, for before this happens the supply price of the output appropriate to any period in view—long or short—may change through a fresh change in demand caused by increase in population or its incomes and tastes or by a change in methods of production occasioned by invention of machinery and discovery of new processes of production. The normal supply price is itself continuously shifting and there is no stationary point which the moving market price will finally catch and restore permanent equilibrium. It is like the race

normal price towards which the market price PM will move. In the long run, however, cost of the additional output will be lower according to the normal part RS of the normal supply curve $S S$, and the new normal price will therefore be $P''M''$, at which demand and supply will be OP'' . Thus the price $P''M''$ and demand and supply OP'' represent new position of equilibrium that will be established. It may be noted that the price PM will fall to $P''M''$ gradually as supply increases. Of course this new price $P''M''$ is seen to be higher than the old normal price PR .

(b) Then suppose that *demand has decreased* and is now represented by the curve $D''D''$. The price will fall to PN immediately if the existing supply is fixed and must be sold. Loss of RN per unit will cause reduction in output but costs will be higher during the short period as represented in RS'' branch of the supply curve $S S$. The new sub-normal price will then be $P'N'$ towards which the market price PN will move. In course of time, however, costs will be lower according to RS'' part of the normal supply curve and under the new equilibrium position the normal price of $P''N''$ will be established at which demand and supply will be equal to OP'' . The new normal price $P''N''$ will of course be lower than the old normal price PR . In so far as prime costs and a part of the supplementary costs only are enough to continue output at a reduced scale during a short period the RS'' branch of the curve may be taken to represent such costs and not total costs as is the case with the corresponding normal part of the curve $S S$. This is of course probable in industries employing large fixed capital and having high overhead charges.

Here it is necessary to note two points. (1) *Conditions of supply are supposed to be stationary* as represented by the curve $S S$. Disturbances to them are taken to be limited to short periods during which output is increased or reduced. These disturbances are represented by RS' and RS'' branches of the normal supply curve in which both tend to merge over the long period. As we have noticed, stationary conditions of supply cannot be certain to exist in a dynamic society. Normal supply curve may itself shift upwards or downwards during the period of adjustment to the changed demand.

and the new normal prices $P''M''$ and $P''N''$ may be different from what they are shown to be in the diagram. And of course such shifts may occur frequently and new normal equilibrium may never be established fully. (2) The normal supply curve $S S$ represents the conditions of supply of commodities produced under diminishing returns or increasing costs. Responses of prices of commodities subject to diminishing and constant costs will be somewhat different. These have been examined in the next chapter on page 194.

Equilibrium Theory of Value Summarized.

The theory of value may now be summed up in a more comprehensive manner —

The value or price of a commodity in a competitive market settles at a sum of money at which demand and supply are equal. No price at which the two are unequal can endure because demand larger than supply or supply larger than demand will cause the price to rise and fall respectively until they become equal.

The price so settled *always* equals the marginal utility of the quantity sold and purchased, but may be lower or higher than marginal cost to the extent that supply is fixed and cannot be reduced or increased. When this is so, equality between demand and supply is temporary because supply has cause to be reduced or increased. However, in the long run supply gets adjusted and the price tends to become equal not only to marginal utility but also to marginal cost of production. When that happens equality between demand and supply becomes normal or stable, no cause being left for either to increase or decrease. But before the price becomes normal a midway situation develops during the *short period* in which the market price conforms to what may be called sub normal price based on change in costs during such period.

Immediate change in market price due to change in demand is similar in the case of all commodities, but over a long period the normal price is affected differently according to the law of returns to which it is subject.

Basis of the Theory.

The theory is of course based on the following generally accepted principles or laws

CHAPTER XVII

SPECIAL PHASES OF THE THEORY OF VALUE

The last chapter was devoted to the explanation of the law or theory of value. It is proposed in this and the remaining chapters of this part IV of the book to illustrate the working of the law in certain particular cases and to examine some of the important factors that accelerate or impede the action of the forces of demand and supply and thereby influence value. In this it will be a great help if we can constantly keep pictured in our mind the demand and supply curves intersecting each other and representing the position of equilibrium at the point of their intersection.

Isolated Economy.

We have seen that the fundamental economic problems of an isolated individual like Robinson Crusoe and of people living in the most advanced countries of today are similar in many respects. Crusoe is confronted with the law of diminishing utility in consumption and with diminishing returns in production and in both he has to keep before him, consciously or unconsciously, the principle of substitution and the law of equi-marginal utility for wise distribution of the time and energy on the one hand and the fruit of his labour on the other. He has no problems of exchange or distribution to worry him. Yet the law of demand and supply has its application in his daily life. As he goes out to pick wild fruit every morning he finds that the first hour's pickings yield great satisfaction but involve little or no fatigue. The second hour's gatherings give less utility but involve some exertion. The process goes on until utility of the additional pick equals the disutility of effort necessary to gather it. Here we may say demand price and supply price are equal and Crusoe stops for the time being. The descending demand curve in this case denotes the diminishing utility of additional units of fruit and the ascending supply curve represents the mounting fatigue caused by each hour of additional effort needed to gather each additional unit of fruit. The intersection of the two curves represents the point where utility of

the last unit equals the irksomeness of the last hour's effort and the quantities of fruit demanded and supplied are equal

The situation may now be translated into money economy. Let Crusoe join a cotton mill in Bombay as a labourer and wages of work be four annas per hour and not a chhatak of wild berries as before. Each additional four anna piece he now gets with increasing fatigue but obtains with it successive loaves of bread that bring diminishing satisfaction. Still free from family responsibilities he may find the sixth loaf purchased with the sixth four anna piece earned in the sixth hour of work in the factory as all that is worth his while and stop. Reducing the need for loaves to two and adding clothes, house room, tea and cinema we may well find Crusoe standing as a representative of a modern factory worker. The demand curve now represents Crusoe's diminishing utility for bread and other things and the supply curve the efforts of a host of other workers who produce bread, clothes, houses, tea and cinema shows

Barter Economy

Let Crusoe now go back to his island once again with another of his Bombay companions and, having tasted some of the advantages of variety in consumption, let him and his companion specialize in gathering berries and catching fish and barter their respective products, with each other without the use of money as a medium of exchange. Suppose now both work eight hours, Crusoe gathers eight chhataks of berries and his companion catches eight small fish. As one chhatak of berries is exchanged for one of the eight fish caught Crusoe's demand price for fish and his companion's demand price for berries are both higher than the respective supply prices of the two commodities. Crusoe is ready to offer more than a chhatak of berries for a fish, his companion is prepared to take less than a chhatak for a fish. Supply of each of the two commodities is greater than the demand. As additional chhataks of berries are exchanged against fishes their respective demand and supply prices begin to come closer together, the former falling and the latter rising. Supposing they become equal when four chhataks of berries are exchanged for four fishes. We then reach the point of equilibrium. In this case, as under money economy, we shall have to represent demand and supply curves of the

two commodities and their intersection separately, their shapes and magnitudes will of course be similar. Under barter units of utility, and in money economy, units of money, will be the common measures of demand and supply prices.

Fixed Supply

It is possible as we have seen, for the supply of a commodity to be absolutely fixed at a particular time whatever the price. In such a case the supply curve will be a vertical line meeting the downward demand curve at some point which will represent equilibrium position of demand, supply and price. If demand increases price will rise, if demand decreases price will fall. Such is the case with very perishable commodities in a local market, it may also be the case with land which has no supply price as such based on costs of production, and with old pictures or other things then owners put in the market for sale at any price they will fetch. Evidently marginal vendibility or demand price governs their market price.

It may be noted that it is difficult to find a parallel example of absolutely fixed demand with a vertical demand curve and supply varying with price. If that were so in any case the supply price will govern value theoretically.

Constant Demand and Changes in Costs and Supply Prices

Supposing that conditions of demand are constant and are represented by a demand curve which does not change its position, though of course it slopes downward showing larger quantities purchased at lower prices than at higher ones. Then if costs increase or decrease supply curve will change its position, it will shift upwards with increase and downwards with reduction in costs whatever the law of returns to which the production of a commodity is subject. The price will rise in the former and fall in the latter case. The situation can be easily illustrated by keeping the demand curve constant and drawing with dotted lines new supply curve or curves running parallel to the old supply curve.

Different Laws of Returns and Changes in Demand

Costs of production and therefore supply prices of different commodities generally change with increase or decrease in output and supply if sufficient time is allowed for proper adjustment in the factors

of production of such commodities. Taking these conditions of supply to be stable, that is, supposing that inventions or exhaustion of natural resources or other causes are not tending to reduce or raise costs and supply prices, let us see the effect on price of changes in demand represented by shifts of the demand curve. These effects may be summarized as follows —

(1) **Immediate effect** of a change in demand is similar on the prices of all commodities. An increase in demand raises price and a reduction in demand lowers price. (2) During the *short period* the effect on price is even more universally uniform. Costs are usually higher than normal whether output increases or decreases, and this is reflected in the sub-normal price.

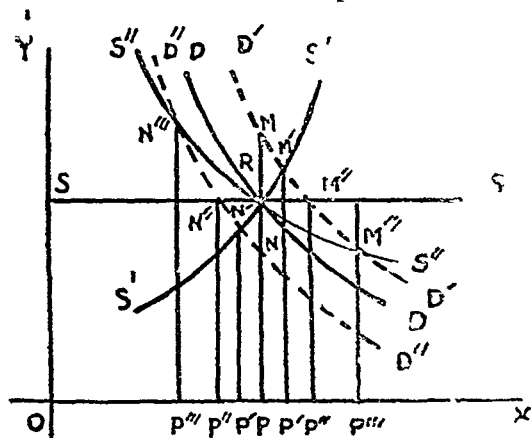
(3) **Ultimate effect** over a long period differs according to the law of returns or costs to which a commodity is subject.

(a) **Constant Returns** The *price* of a commodity produced under constant returns (which means constant costs) *shows no change* over a long period whether the output is increased due to *immediate rise in price* caused by increased demand or it is reduced in response to an *immediate fall in price* resulting from diminution of demand.

(b) **Diminishing Returns** Over the long period *price rises with an increase in output* due to rise in costs and supply price, *it falls* with a reduction in output induced by a fall in price caused by decrease in demand.

(c) **Increasing Returns** Prices of commodities produced under increasing returns (which means decreasing costs) ultimately fall with an increase in demand and rise with a decrease in demand because increased output means lower and reduced output means higher costs per unit.

These effects of changes in demand may be explained with the help of the following diagram :—



Here quantities produced and supplied are represented along OX and costs and prices along OY. The curves SS, S'S and S''S'' represent normal supply curves for constant, increasing and diminishing costs commodities respectively. The demand curve DD is common to all the three types of commodities. For each of the three commodities PR is then the normal price at which there is normal equilibrium between demand and supply.

Suppose now the equilibrium is disturbed by (a) an increase in demand as shown by dotted demand curve DD' (b) a decrease in demand as shown by another dotted curve DD''. Taking now the output and supply coming to the market daily or weekly to be more or less fixed at OP the price will immediately rise to PM if demand increases and fall to PN if demand decreases in the case of all the three commodities. These rises and falls of price will cause increase and reduction in output and supply due to exceptional profits and losses respectively. *Ultimately* or in the long run the effects will therefore be different.

(1) In the case of **constant costs commodities** the new normal prices P'M' and P''N'' will be equal to the original normal price PR whether demand increases or decreases, because costs per unit remain constant whatever the output as shown by the curve SS.

(2) Now take the **increasing cost commodities** whose supply curve S'S moves upward as output increases. In their case the new marginal cost or supply price and of course the new normal price itself will rise to PM if demand increases, as indicated by the dotted demand curve DD and output is increased to take advantage of the exceptional profit RM per unit. This new normal price although lower than PM will still be higher than the old normal price PR. On the other hand if demand decreases as shown by the demand curve DD'' the new normal price will be P'N', which is higher than PN yet lower than the old normal price PR. This should apply in practical economic life. Prices of agricultural commodities usually rise with increase in population and in demand for them as poorer and more inaccessible soils have to be cultivated for raising the additional supplies. Even if the more fertile and accessible plots are more intensively cultivated costs and prices will rise, And if population decreased there is no ground for doubting that prices of agricultural commodities

will fall as their costs per unit will be lowered with rise in the margin of cultivation. We see here incidentally the bearing of the law of diminishing returns on the well-being of the world.

(3) Increasing returns or diminishing cost commodities The long period effect of change in demand on the prices of such commodities will evidently be the reverse of that produced on the prices of diminishing returns commodities. The supply curve $S'S'$, which represents the behaviour of costs with variations in their output, slopes downward indicating reduction in costs per unit as output increases. If demand for them increases the new normal price will fall to $P''M''$ because the new demand curve $D'D$ meets the supply curve $S'S'$ at M'' and indicates the new position of equilibrium. This price is and ought to be lower than the old normal price PR because costs per unit for supply OP'' are lower than the costs of the smaller supply OP produced and sold previously during a given period of time. In case the demand decreases as shown by the curve $D''D''$ the new normal price will rise to $P''N''$ because that will be the marginal cost per unit for the reduced supply OP'' . These theoretical possibilities of price falling with an increase and rising with a decrease in demand are not very far from conditions prevailing in actual life. When a new manufactured commodity is introduced its demand is usually low and cost and price are both high. As demand expands supplementary costs per unit fall until capacity of the existing plant is not fully utilized. And then new inventions of machinery and localization bring further economies in costs and result in continuous fall in market prices. And if, for any reason, demand should fall off due to the thing going out of fashion with a section of the consumers costs per unit are bound to rise and the users who want to continue its consumption will have to pay the higher price covering the higher costs of the reduced output.

*It may be noted that this curve $S'S'$ does not mean that costs of the part of the total supply at any time are higher than those of the additional supply, it means that costs per unit of the supply as a whole fall as output is increased. The curve $S'S'$ representing diminishing returns commodities does, however, denote that different parts of the total supply are produced at different costs. Thus $P'M$ stands for the costs per unit of the marginal supply raised, say, from poorest soils newly brought under cultivation, supply coming from richer soils is costing less than price $P'M$ obtained in the market and gives rise to producer's surplus or rent.

Joint Demand

When two or more commodities or services are together required to satisfy a particular want they are said to be jointly demanded. Thus dried leaves of the tea plant, some fuel and labour of a tea stall-keeper are necessary to satisfy our want for tea. The demand for ready tea is *direct*, that for milk, sugar, tea leaves and fuel which may be called *factors of production* of tea, is *indirect* and *derived* from the demand for tea.

The price of a cup of ready tea at any given time depends on the demand and price for tea is determined by the marginal utility of the number of cups offered in the market, the larger the number of such cups sellers want to sell the lower will be the price they will have to accept. Now the demand prices for tea leaves, milk, sugar and other things are derived from and depend upon the price at which cups of tea can be sold. The demand price for any quantity of one of the factors of production can be derived from the demand price for tea prepared with that quantity by subtracting from the latter the supply prices of the appropriate quantities of the remaining factors. Supposing 100 cups are sold per day in a lonely stall kept at a bus stop in a village at a price of one anna per cup or Rs $6/4$ in all. Then if, say, two seers of milk, two seers of sugar and requisite quantity of fuel and labour of the stall-keeper are available at Rs 4/-, the demand price for a pound of tea leaves required for preparing 100 cups is Rs $2/1$. Demand prices of milk and sugar can be similarly derived. Prof. Marshall has termed this as *the law of derived demand*, which he has stated in these words "The demand schedule for any factor of production of a commodity can be derived from that for the commodity by subtracting from the demand price of each separate amount of the commodity the sum of the supply prices for corresponding amounts of the other factors"¹

This means that the demand prices of all the factors will follow the price of tea, rising and falling together. However, the rise and fall in the price of tea cups need not be shared uniformly by the prices of milk, sugar, tea leaves and other factors immediately or even ultimately. The proportions in which the latter will share rises and falls in the price of ready tea will depend upon their respective conditions of demand and supply. Those which are most essential

byproducts Two elements common to such joint products are (1) joint cost and () joint production or supply

Costs being incapable of separation how are the values or prices of joint products determined ? In this question lies the importance of the problem of joint supply It may be answered as follows

(a) The prices obtained for all the joint products equal in the long run then joint cost Thus if the cost of producing and ginning a maund of cotton is Rs 20 the prices of cotton fibre and cotton seed yielded by a maund of cotton will tend to equal Rs 20 Any higher prices will increase the supply of both and lower then prices, and if the prices obtained for both add up to less than Rs 20 the supply will be reduced and prices raised to make up Rs 20

(b) Then separate prices will be determined by their conditions of demand or more definitely by the marginal utilities of the quantities produced The price of cotton fibre per maund is much higher than the price of seed This is due partly to the larger proportion of seed yielded by a maund of cotton and therefore to its lower marginal vendibility, partly it is perhaps due to greater utility of fibre than that of seed Recently cotton seed has been used to make vegetable ghee out of it and the process yields cake as a by-product Thus cotton fibre, vegetable ghee and cotton seed cake are joint products If any of the by-products is useless and has no marginal utility it is thrown away At one time in India molasses produced in sugar factories became so plentiful as to have lost its value-in-exchange altogether and sugar companies used to pay something for removal of molasses from the factory sites

(c) If any of the by-products needs any treatment such as refining or picking before it can be marketed the cost of such treatment, including profit of the factory owner forms its *separate cost*, which constitutes the minimum below which its price cannot fall, for otherwise such costs will not be incurred Its price will of course cover a part of the joint cost according to its marginal vendibility, provided of course the latter is more than the separate cost

It follows from this that *a change in the demand and price of any one of the joint products will influence the prices of other products in an opposite direction* Thus, suppose the demand for

cotton fibre increases due to increase in population and its price rises. This will tend to raise the price of cotton whose supply will be increased due to the stimulus of higher profits. But increase in the output of cotton will mean an increase in the supply of both cotton and cotton seed, price of cotton may then remain somewhat lower than before because its demand has increased. But the demand for cotton seed remaining the same an increase in its supply will lower its price. This in its turn may lower the prices of both vegetable fibre and cake. An increase in the demand for vegetable product may raise the price of cotton seed and lower the prices of cotton fibre and cotton seed cake. Conversely a diminution in the demand for fibre will lower its price but raise the prices of cotton seed and therefore those of vegetable product and cake.

The term *composite supply* denotes that a want may be satisfied by a number of commodities which compete with one another. Thus kerosene oil, many vegetable oils, gas and electric current satisfy the need for light. Their prices are to some extent moderated by each other and usually move together.

It may be noted that prices of many goods are now-a-days very much related to each other either from the side of demand or of supply. The utilization of by products has reduced the costs and prices of main products. The prices of substitutes like tea and coffee generally move together, if the price of one rises some of its demand is transferred to the other. A good example of these connected values given by Dr. Marshall is that of the price of leather falling because the price of iron rose in England when charcoal was used in smelting iron ore. An increase in the demand for iron raised its price, this increased the demand for, and raised the price of, charcoal. More trees were cut down, yielding not only more charcoal but also more bark, whose price fell. Used as a tanning material cheapness of bark reduced the costs and prices of leather*. In our own country large war orders for various kinds of goods made of timber kept saw dust much cheaper during the war than it now is. And the price of saw dust has its effect on the price of ice to the extent that the former is used as a preserving material for ice.

The effect of changes in demand for products jointly supplied is more permanent on their prices than the effect of such changes on the

prices of goods and services jointly demanded. In the case of the latter immediate effect is quite large but ultimately their values tend to coincide with their respective costs of production. But in the case of joint products costs cannot be separated and changes in their prices caused by changes in the demand for them are therefore likely to endure. An increase in the demand for cement due to expansion in house building activity may raise its price much immediately but in the long run the price is bound to come down to the level of costs per bag. But an increase in the demand for cotton fibre may permanently lower the price of cotton seed¹.

Price Control and Rationing

People have for long been familiar with the effect of taxes and bounties on prices. A tax put on a commodity at any stage—production, sale, import or export—raises its cost and supply price and in due course affects its market price. A bounty, on the other hand, lowers the cost of production and competition tends to lower the market price by the bounty per unit granted by the state. The effects of these work out through supply and are similar to those of any factor that raises or lowers cost of production. A tax simply shifts the supply curve upwards, a bounty lowers it downwards, neither of the two modify in any way the demand and supply theory of value.

Control over price or, what comes to the something fixation, of price by the state is a new development dating from World War I. It seems on the face of it to falsify altogether the theory of value propounded so elaborately in text books dealing with economics. If value can be fixed by the state, it may be claimed the forces of demand and supply proclaim their own impotence. A little thought will, however, show that demand and supply do play their part under price control and value theory itself remains in tact. It is not at all falsified. The control simply prevents adjusting action and prolongs the agony it attempts to alleviate.

The main purpose of the fixation of prices by the state is to keep them below the level they will attain without control, that is, below the economic level determined by the free play of demand and supply. It is a matter of common experience not only in India but other

¹ See Taussig 'Principles Vol I P 220

countries that such an attempt either fails through the appearance of black markets or it needs very elaborate and costly machinery and measures to enforce it. The '*control Price*' being lower than the *economic Price* determined by marginal utility increases the demand and reduces the supply above and below the magnitudes they will attain without control. Black market acts as an outlet for the adjustment of this fundamental disequilibrium. It is like the flood waters of a river breaking the dam itself or seeking outlets at the ends if the dam itself proves strong. And of course the *black market Price* is always higher than the economic price because cost of black supply is raised by the risk of fine, imprisonment and confiscation of stocks to which sellers are exposed. Thus we see the strength of the forces of demand and supply working in the dark when prevented from acting openly. This is when '*control*' price fails.

Even when it succeeds the law of demand and supply does not stop functioning. To the extent that price fixed by Government is lower than economic price demand becomes greater than supply and the gap that is otherwise automatically closed by the rise in price reducing the demand and increasing the supply, is artificially adjusted by rationing, which means restricting the demand of each individual or family according to the supply available at the control price. Thus *demand is equated to supply by rationing* instead of by a shift in price. And the control price prevails like the free price so long as equilibrium between demand and supply is maintained artificially by rationing.

The demand in such cases is always pressing towards expansion and supply towards contraction. The former can be kept down to the extent that daily or weekly ration is reasonably adequate, supply is kept up to the extent control price conforms to costs or supply price for the required output. Of course if all the supply were seized by the state it could be sold at any price so long as it lasts but private enterprise is sure to discontinue further production at an uneconomic price unless the gap between cost and price is filled by a bounty which is a very common device adopted in times of price control. A state undertaking may, however, continue to produce at a loss, the public treasury bearing this as well as the cost of the bounty. In the absence of bounties and nationalized production the control authority has to revise the

control price upwards from time to time as money costs increase due to inflation. This is illustrated by successive raising of the prices of sugar, kerosene, petrol, food grains and other controlled commodities during and since the end of the war.

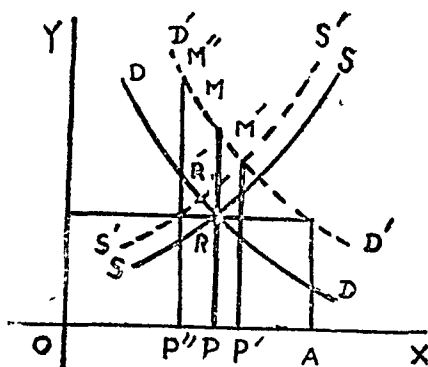
The fact that keeping down of the price below the economic level has its drawbacks is recognized by many people even outside the circle of students of economics. There are (a) the inconveniences of rationing—of low rations and of queues apart from a host of unfair practices (b) prevention of the supply from expanding through the stimulus of the high price and (c) disharmonies between supplies of controlled and uncontrolled commodities caused by diversion of labour and capital from the production of the former to that of the latter. Thus during the war period there was at one time transference of considerable acreage from food crops to cotton, which was later sought to be remedied by putting a ceiling on the price of cotton. The lifting of control over sugar accompanied by raising of the price of sugar and sugarcane (December of 1947) is bound to divert some acreage from food crops to sugarcane and lead to plenty of sugar relatively to the supplies of essential food grains.

It is true that if things are left to themselves continuous inflation caused by heavy governmental expenditure will raise the prices of essential commodities to levels at which the poorer sections—those with fixed money incomes or incomes rising at a much lower rate than prices—will find it impossible to purchase any, while those with incomes rising faster than prices will be able to purchase all that they want. But the situation may be met by taxing the rising money incomes and transferring these and the considerable sums spent on control machinery to the fixed income receivers through direct dearness allowances in money or by applying them towards losses incurred on supplying essential commodities below procurement prices as has been done by Indian Railways and factory owners in the case of their employees. No doubt most of these expedients have been tried in India in some degree in the shape of the imposition of the excess profits tax, subsidizing of rationed commodities by sale at prices lower than cost and grant of dearness allowances and later raising of the salary grades as recommended by the numerous *pay committees*.

These inconveniences and economic disharmonies lead to conflicts, the most glaring examples of which are the appearance of black

markets and non-cooperation from the public in control measures. During the war controls may be tolerated temporarily on patriotic grounds, in normal times they prove too vexatious and intolerable. This is evidenced by the very universal demand for the lifting of controls that arose after the end of the war in India.

The situation arising under the system of price control may be depicted at least partially in a diagram —



Let quantities demanded and supplied be shown along OX at different prices represented along OY. Before control is imposed PR is the equilibrium price at which demand and supply equal OP. Due to inflation and rise in money incomes and reduction in goods available for civilian consumption demand price for available supplies increases as indicated by dotted curve $D'D'$. Price will then immediately rise to PM at which alone the limited supply OP will be equal to the demand. Let the government keep the price down at PR without rationing. The demand at this price is seen to have increased to OA, supply at this price may remain OP if there is no hoarding¹ in anticipation of a black market arising on control price itself being raised later by authority. If there is such hoarding to the extent of PP'' the reduced supply OP'' will sell at $P''M''$ under a free market, because of control, price in the black market will rise above $P''M''$ due to risks. If, however, hoarding is prevented by keeping the whole of OP supply in the market and rationing is introduced the price fixed at PR may prevail by limiting the demand

¹This is speculation, dealt with in the next chapter.

to OP, that is more or less by bringing the dotted curve $D'D'$ to its original position denoted by DD. As and when costs increase as indicated by the dotted supply curve SS Government will have to permit raising of the price to PR' (to which now the cost of production per unit has risen) for the maintenance of the periodical output equal to OP. We may also note that if price is not controlled at all the high market price PM will tend to increase the supply until the price falls to $P'M'$ at which new equilibrium between demand, supply and price will be established under a free market. Fixation of price at PR and even raising it to PR' prevent increase in supply to OP' .

Fixation of Price The foregoing discussion shows that the authority charged with the fixation of price cannot act entirely arbitrarily if production under private enterprise is sought to be continued. Any price that is fixed must cover the costs of production including reasonable profit for the proprietor or else production will stop. Such a price may be called *fair price*, denoting a level that is fair to the producer as well as the consumer. This means that the controlling authority remains bound by the law of supply and demand, which it is supposed to supplant or at least suppress in the popular mind. The only thing which administrative authority can do, and which looks reasonable is to prevent the price from rising above cost as it does immediately demand increases and supply cannot be increased. Such a rise in price (from PR to PM in the foregoing diagram) is not the result of increase in costs and means exceptional fortuitous profits for those who happen to hold the stocks—profits that are not at all necessary to call forth the supply that already exists. But to the extent that costs have actually risen and continue rising control price has to be constantly revised upwards during a period of inflation in which alone control has had validity in the past at any rate. The other alternative is of course making up the difference by a state bounty.

But decision about what is fair price by any individual or committee is a very elusive affair howsoever fair it might appear to the uninitiated public. It is extremely difficult to decide even if the various elements of cost remained stationary, in a constantly changing situation relating prices to costs becomes a superhuman task. Fixation of fair price for the finished product necessarily means fixation of fair prices for the various kinds of raw materials, labour,

CHAPTER XVIII

SPECULATION

The Nature of Speculation

Speculation is one of the important types of specialized business dealings carried on in countries in which there is freedom of private enterprise. Its significance to the student of economics lies in the influence it exercises on the values of commodities it deals with and through them on the economic life of society. For a proper grasp of these effects of speculation a short account of its nature and of the methods and machinery it employs is necessary. Literally speculation means thinking about some topic or phenomenon and reaching certain conclusions about it, in this sense a philosopher speculates about the origin and nature of the universe. In popular language speculation is associated with the sharp practices of persons who deal in commodities to get rich quickly without any moral scruples.

Economically the term speculation is used in a restricted sense and denotes purchasing and selling of certain goods by a distinct type of intermediaries between actual producers and consumers of such goods. Pure speculators are neither stockists nor wholesale or retail dealers in a commodity. They may not touch or even see an ounce of the commodity which they purchase and sell day in and day out in relatively large quantities. This they can do because their purchases and sales are for *future delivery* as distinguished from *spot* or *cash* transactions in which goods have to be delivered by the seller and payment made by the purchaser soon after a deal is entered into. The speculators usually *cover* their deals by a *reverse transaction* before the date of delivery arrives. The buyer sells and the seller purchases an equal quantity to or from one or more of the other speculators or consumers and stockists interested in actual purchase or sale of the commodity. Neither of these latter stand in need of covering their purchases and sales. The consumer takes the delivery and pays the price to the stockist on the appointed date. Speculators, however, do cover and this cancels the need to give or take delivery and

to receive or make payment of the price. They have simply to take or pay the difference between the prices at which they sell and buy.

An Example.

To take an example, A buys from B in the month of October 1000 bales of cotton at Rs 200 each to be delivered on the 10th day of following January. Suppose sometime during the intervening period January price, or *January future* as it is called, rises to Rs 210 and A sells the 1000 bales at this price to C for delivery on January 10. A has cancelled his deal making a profit of Rs 10 per bale but B, and C, who are both speculators, would be left in need of covering their sale and purchase of 1000 bales by the date fixed for the *settlement* of their transactions. If the price remains at 210 throughout the remaining period the two are compelled to cover whether it results in loss or profit. Supposing then that C sells to B at Rs 210 all the three speculators have covered their purchases and sales. C both purchased and sold at Rs 210. He makes no profit nor incurs any loss. But B loses Rs 10,000 which goes to A as his profit.

It is of course probable that the cotton manufacturer and the stockist of cotton intervene in these transactions. If B is a stockist of 1000 cotton bales and wants to sell his stock by January and C is a cotton mill owner who will want similar quantity of cotton in January for spinning it into yarn, neither of them will cancel their deals. In such a case A, the real speculator, who bought from B at Rs. 200 will probably cover by selling to C at Rs 210, and on the day of settlement, he will ask B to give delivery to and receive payment directly from C. C will however pay Rs 2,10,000 ($1000 \times \text{Rs } 210$) but B is entitled to receive only Rs 2,00,000, ($1000 \times \text{Rs } 200$). This difference of Rs 10,000 will be pocketed by A as a speculator. Had the price fallen and A had to sell to C at Rs 190 C would have paid only Rs 1,90,000 and the difference of Rs 10,000 would have been made good by A. The profit or loss of B as a stockist or importer will of course be determined by the price at which he purchased or imported his stock, while C's position will be governed by the price he is able to get for the yarn. It is of course possible for a stockist to sell directly to the cotton manufacturer for *spot delivery*, without the intervention of the professional speculator. All speculative markets

in a hall crowded with speculators' who do not see or touch them. Such is the case with most agricultural commodities—wheat, cotton, jute, oil seeds, other staple food grains, rubber and tea—which possess standardized grades and whose supplies are seasonal and subject not only to changes in demand but more largely to changes in supply due to natural causes such as drought, excessive rainfall, frost, fair and foul weather over which the producer has little control. Then there are the metals—precious like gold and silver and base like tin and copper—whose annual outputs are apt to vary from year to year, and whose demand is even more prone to fluctuations due to changes in business and political weather of the world. There are frequent booms and depressions of shorter or longer duration in industry and trade, in building construction and in armament manufacture. Lastly come shares of companies and securities or bonds issued by governments and semi-public bodies, like Improvement and Port Trusts) whose supplies are limited but values are subject to heavy fluctuations with changes in the fortunes of their issuers. Ability of public authorities to repay the bonds on maturity and to meet regularly until then interest falling due periodically, is affected favourably by financial and military strength and adversely by actual and anticipated budget deficits, threats of war and repudiation of debts. Rates of dividends or annual profits distributed by companies vary widely due to ups and downs of business conditions, strikes and lock-outs and a number of other causes.

Prices of most manufactured goods are not subject to such fluctuations. Their production and consumption are regular throughout the year, and output can be easily increased or reduced to meet variations in demand. Information about these latter reaches the manufacturers quickly through retail and wholesale dealers, who increase or curtail their orders from time to time according to expansion and contraction in turnover. The farmers who sow cotton or wheat evidently cannot adjust their sowings so quickly or thoroughly. The prices of manufactured goods thus may remain fixed for years together until some major change occurs in demand through change of fashion or in supply, through invention of machinery perceptibly reducing the costs. Consequently there is no scope for speculation in these goods. However, manufactured commodities like sugar are an exception. The whole of our supply is produced by the sugar mills during the cane or ush-

ing season which extends to just about three months. It is not therefore possible to regulate production month by month or to estimate the whole year's requirements in advance. And even if this were possible seasonal output of sugar by the factories will remain subject to variations caused to the yield of sugarcane crop itself by floods droughts pests and arbitrary choices of millions of farmers about the area planted with cane from year to year. The formation of the Indian Sugar Syndicate which controls output and price of sugar of its member factories has no doubt reduced the price fluctuations. Yet, complete elimination of price variations over a number of years is impossible unless very large stocks are withheld in years of good harvests and released in those in which the crop is lean.

Speculative Markets or Exchanges

Speculation in these commodities is usually carried on in separate markets specially organized, called exchanges generally in collecting centres or terminal markets where stockists and large scale dealers tend to congregate. Thus there are to be found in important Mandies in all the advanced countries Grain, Cotton, Bullion, Metal and Stock exchanges. We have in India Grain exchanges in Bombay and Hapur, a Cotton exchange in Bombay, and Stock exchanges in Calcutta, Bombay, Madras, Delhi and Kanpur. Their organisation and methods of work are very largely similar. A number of persons—from a few hundred to a few thousand—form an association or company for providing a market place or Hall in which they meet from day to day to purchase and sell among themselves either on their own account as jobbers or on behalf of non-members as brokers. They consist of both pure speculators and also those interested in actual delivery and payment such as stockists and manufacturers. Right to deal in the exchange is strictly limited to members or their authorized agents, and a definite set of rules is drawn up governing such matters as admission of members and methods of delivery and payment and prescribing penalties for infringement of rules so as to prevent, as far as possible, abuses and illegitimate practices described later in this chapter. Confinement of dealings to members only and strict set of rules of business are necessary to enforce fulfilment of large futures contracts entered into in a hurry by a mere word of mouth or pencil entries in pocket books. Outsiders, if allowed to deal, may repudiate contracts proving inconvenient, or may prove unable to fulfil them.

Members' financial standing and integrity are known to each other while the rules of business and their enforcement by an elected managing committee ensure fulfilment of contracts, without which a speculative market cannot function even for a day.

However, limitation of dealings to members and of the number of such members, does not mean that transactions are confined to them. Thousands upon thousands of outsiders scattered over the whole country and even foreigners do actually speculate through the members, who act as brokers at a very small commission. Each member remains responsible for all transactions effected by him either for himself or for his customers, who may be outsiders. In important exchanges like the London Stock Exchange members are divided into two distinct classes (1) *jobbers* who possess enough capital and who therefore deal on their own account only and (2) *brokers* who purchase and sell on behalf of others only. This is necessary to prevent a broker from cheating a customer by purchasing the latter's shares (or any other commodity dealt in at a commodity exchange) at a low price or selling his own shares to the customer at a price higher than the one prevailing in the market when the deal is put through. Unfortunately this sound practice has not yet been adopted by Indian stock and commodity exchanges due to the volume of business being too small for any considerable numbers of members to act as brokers or jobbers only, so that they act in both capacities. Another safeguard to protect the dealers in the exchange is that the member, who wants to purchase or sell any particular share or security, goes to a jobber and asks him to *name the price* of the security he is interested in without telling whether he will purchase or sell. Suppose the security concerned is Tata Ordinary share. The jobber will then quote two prices, say, Rs 290—291, which means that he will purchase at the lower and sell at the higher figure, the difference of Re 1, called the *jobber's turn*, represents his own profit for the ready service he renders in meeting the requirements of both the purchasers and sellers. This difference is usually made very narrow by competition among jobbers.

Risks of Speculation.

Speculation is on the face of it very risky, it carries chances of huge losses as well as high profits. Ordinarily all business—growing of crops, mining, trade, stocking, importing, exporting, manufacture,

banking—is risky to the extent that prices are subject to fluctuation between the dates of purchase and sale. And this risk has increased greatly in the modern age where purchase, production and manufacture of goods are initiated months and years ahead of actual demand. But speculation, in the sense of contracts for future delivery and their cancellation by covering or reverse transactions before the date of delivery, is *specially risky* in so far as a speculator has, and takes advantage of, opportunities for *overtrading*. He purchases and sells quantities much beyond the capital at his disposal. He has to find, not the full quantity of a commodity he has sold nor full price of the quantity he has purchased but, only the difference between the sale and purchase prices, and a part at any rate of even this small capital may be borrowed. Secondly, not having the requisite capital the speculator has to *cover* by the date of the contract and pay or receive the difference. It is true he can *carry over*, or do what is called *badla* in Hindustani: that is, continue the transaction for another small period until the next settlement day. For example, if A, who has purchased cotton for January delivery at Rs 200 anticipating a rise, finds that the price has actually fallen to Rs 190 but hopes it will rise again after January, he may sell in January at Rs 190 and purchase again at the same price for March delivery. Yet, in January he must pay the difference of Rs 10 per bale. *Badla* is thus essentially a new transaction which carries its own risk of a further fall in price between January and March. At the most it gives to the unfortunate speculator the consolation of better times in the future, which may not come.

The result of such over-trading and relatively quick and compulsory settlement of accounts is rapid and heavy rises and falls, of fortune for the speculators. Millionaires are literally made and unmade overnight by speculation, and the chances of quick gains attract all kinds of adventurers to speculation and lead to some of its worst evils. A considerable percentage of the outsiders, who enter into speculative dealings through member brokers, consists of persons who know little about the trend of future prices. Their dealings are in the nature of gambling—they stake their capital on the most uncertain chance of price moving in their favour. But speculation is not gambling for the professional expert, who deals in futures on the basis of definite information in his possession. He has knowledge not only of the existing stocks of the commodity he deals in but of the

probable changes in its demand and supply through crop reports and other information which reach him almost daily from the farthest corners of the world. On this basis he estimates the future course of prices and undertakes the deals like any other businessman. His knowledge and experience usually prove correct and he reaps his rewards. In a few cases, where they prove wrong, he cuts the losses soon by reversing the transaction and keeps ready sufficient resources to meet the losses actually incurred. On an average his operations prove profitable to himself and, as we shall see, beneficial to the interest of the community. The dealings of the amateur or inexport speculator, on the other hand, prove injurious to the social as well as to his own interest.

Bulls and Bears

Business ability and talent differ from person to person; so do the interpretations of crop reports and other information and the estimates based on such information. Some are more shrewd than others, if this were not so and all the speculators judged every factor equally speculation would stop. A bad news will make everybody a seller, a good piece of news will turn them all into purchasers. But for each single transaction both purchaser and seller are needed. Happily for the speculators, factors affecting prices are many, news come in lots and individual judgements about their combined effects on price vary widely. Even if all of them feel at a time that prices will rise, which is rarely the case, they are apt to differ in regard to the extent of such rise, so that those who think price will rise by not more than, say, Rs. 10 per bale, begin to sell as soon as that rise has taken place, while those who feel price ought to rise by Rs. 50 will continue purchasing until that limit in rise is reached. By then their judgements and decisions may change and opposite deals may commence. This is what actually happens in the daily life of the various exchanges.

Those who feel at any time that facts of the situation, such as future increase in demand or shortage in output which they anticipate, warrant a rise in price, begin to purchase and their purchasing then tends actually to raise the price. They are called *bulls* in speculative terminology. But it is likely that others at the same time think that the same set of facts will sooner or later lower the price and begin to sell. Their sales tend to push down the price or at any rate do not allow

it to rise as much as it would if their estimates tallied with those of the bulls. They are called *bears*. But speculators are not divided into two distinct classes of bulls and bears as members of an important exchange are divided into jobbers and brokers. A bull in cotton may be turned into a bear by a single telegram announcing favourable weather and a larger yield in an extensive cotton growing region. Thus the experts differ and price fluctuations and their attendant risks continue. Yet those more informed and shrewd win in the end and push the price towards the right or normal level.

Option Dealings

The losses and gains resulting from price fluctuations and taken over by the speculators as a class are spread over a large number and made bearable by the process of diffusion. In a rising market no set of bulls waits till the rise stops, in a falling market no set of bears sits idle until the price has reached the bottom. They are constantly covering and sharing among one another the profits and losses of rises and falls in prices.

In this process of shifting of gains and losses *opt on dealings* (called *तेजी मन्दी* in Hindustani), which form a part of most speculative markets, are of great significance. They provide to the speculators a device by which those who like can throw the whole or part of the risk on to their other companions willing to take it at a price called the *premium*. Thus a short seller may buy from another speculator or perhaps a stockist at the same price at which he has sold not the quantity he has sold but the *right to buy*, (termed the *call option*), that quantity at his option within a given period by just paying a premium at so much per bale or other unit. If the price rises, instead of falling as he expected, he avoids the loss by exercising the option to call for delivery of the quantity from the seller of the option. But if the price does fall he ignores the option and loses the premium but makes a profit by covering his sales at the lower price. He thus limits his loss from rise in price to the extent of the premium paid but keeps unlimited the chances of profits from a fall in price*. A bull operator, who *buys long* at a certain price, may on his part buy at the same time a *put option*, that is, the right to sell a similar quantity at the price at which he has bought for forward delivery by the date

*See example given in the next paragraph.

of delivery if he wants to do so. If the price rises, he sells and takes the profit, ignoring the put option he purchased. Of course the premium paid for the option lapses. But if the price falls, his loss becomes limited to the premium paid, for he then exercises the option to sell the whole quantity he bought at the price at which he bought it. In the absence of such an option he would have been compelled to sell at the lower price and bear the whole loss equal to the difference between the purchase and sale prices. The manufacturers and stockists of materials may also purchase call and put options respectively at the prevailing rate of premium for quantities they want to purchase or sell, thus limiting their losses and keeping gains unlimited.

Some speculators may at times try to make unlimited profits without either buying long or selling short and yet limit the losses to levels considered safe by them. This they can do by buying a *put and call option* or *double option* by paying a double premium or charge for the double right. The purchaser of a double option has the right to either purchase or sell the agreed quantity at the agreed price within a given period of time, say, between the dates of two settlements. Supposing he pays Rs. 2 per bale - Re. 1 for call option and Re. 1 for put option - and contracts to purchase or sell 100 bales at Rs. 200 within a month. He then pays Rs. 200 in all. If the price rises or falls by not more than Rs. 2 above and below Rs. 200, he gains nothing by exercising either of the two options and loses his Rs. 200 paid as premium for double option. But if the price rises or falls by more than Rs. 2 within the month he makes a profit. Supposing the price rises to Rs. 210, he exercises the call option and purchases from the seller of the double option 100 bales at Rs. 200 and sells them at Rs. 210, making a profit of Rs. 1000 on the deal. Deducting the Rs. 200 paid as premium, his net profit will be Rs. 800. He will make the same net profit even if the price falls by Rs. 10 to Rs. 190. For he will then exercise the put option and sell to the seller of the option 100 bales at Rs. 200 and purchase them from some one at the prevailing price of Rs. 190, which means again a profit of Rs. 1000. But the sum of Rs. 200 already paid as double premium will have to be deducted, leaving Rs. 800 as net profit.

The loss is thus limited to the amount of the premium but gain remains unlimited. And capital needed is itself reduced to the

amount of the premium as sales and purchases are cancelled and only difference received as profit. Option dealings thus look to be a very profitable proposition at a very small risk. But in practice this is not so. The sellers of options are clever people who try to earn profits for themselves at the expense of the purchasers of options. If they find that fluctuations are likely to be wide they will raise the premium. For example, if the premium were Rs 5 per bale per option or Rs 10 per bale for double option the purchaser of the option will make no profit until the price either rose or fell by more than Rs 10 per bale. If it rose or fell just by Rs 10, his gain will be just equal to the premium he has paid, leaving him with neither gain nor loss. But if the price fluctuated within a range of less than Rs 10 on either side he will be a net loser. But the seller of the option will have pocketed Rs 200 paid as premium by the purchaser.

Speculation and price.

The effect of speculation on price is broadly to equalize it over a period of time, say, between one harvest and another of an agricultural commodity. Any shortage of supply in the future, indicated by smaller acreage sown or bad weather in one or more of the producing regions or countries, will start bull operations and raise the future price. Similar will be the effect of any anticipated increase in demand. And then the present or spot price cannot but be affected similarly. If wheat price ruling in October is Rs 25 per maund and March price becomes Rs 28 in the wheat exchange, the stockists and wholesale dealers will sell for March delivery at Rs 28 rather than at Rs 25 immediately. Even retail transactions will stop until the spot price becomes Rs 28. On the other hand, if future supply is estimated to be larger or future demand to be shorter than usual, bear operations in March and April futures will gather strength and push down the price, say, to Rs 22 for wheat deliverable in those months. It will then be to the interest of every stockist or owner of wheat to clear his existing stocks at any price that is not below Rs 22, for no better price can be obtained if he waits. Thus the fall in the futures price will be immediately communicated to the spot prices in the wholesale and retail markets.

This means (1) that the price that is likely to prevail in the future, that can at all be foreseen, is at once registered in the specula-

tive market, (2) that spot price is immediately brought into conformity with the future price, (3) that the spot as well as the future prices of a commodity, in which speculation exists, are determined by the forces of demand and supply as acting in a concentrated manner in the speculative market; and (4) that sudden jumps or abrupt changes in price are prevented to the extent that their causes begin to act on price much before they actually occur in the fields of consumption and production. There is a fifth development that needs notice (5) Although *abrupt breaks in price are smoothed out, minor fluctuations become very frequent*. The speculative market being the nearest approach to a perfect market, becomes naturally sensitive like the seismograph, registering immediately the slightest tremor felt in the spheres of supply and demand, occurring thousands of miles away from the place of its location. Thus it is a fact that prices on the commodity and other exchanges fluctuate from hour to hour with the slightest indication of any factor likely to affect demand or supply.

An important point that emerges from the foregoing account of speculation is that *speculative demand* has as much effect on price as the demand of the wholesale and retail dealers and of consumers who take delivery and pay the price. Same is the case with *speculative supply*.

Whether an actual producer or a stockist of cotton sells in the market, or a mere speculator who has no stock of cotton on hand, price does fall. But the effect of speculative demand and supply is *temporary* in so far as every bale of cotton purchased by a speculator is sold sooner or later and all his *short sales* are later covered by purchases. The levels of prices, settled by his demand and supply from time to time, are usually confirmed in due course by the demand and supply of the ultimate consumers and producers of the commodity. In fact, the demand price of the speculators and other intermediaries for any commodity is based on their estimates of the demand price its consumers will pay, and if a speculator or a stockist is willing to sell a commodity at a certain price it is because he feels that the actual producer will have to accept that price as soon as the causes anticipated by him have their effect felt. If and when therefore his forecasts about the actual demand and supply prove wrong, the prices determined by his deals can't be maintained and he is bound to lose heavily. Over-estimation and under-estimation of actual demand or supply by a speculator are sure to make the price move in the wrong

direction for him at any rate and to bring him loss in place of gain. Thus the ultimate determination of the level of price rests on the strength of the demand and supply of the real consumers and producers and not of the speculators or even dealers. Of course, these latter can prevent the forces of reduced demand and increased supplies from acting on price to the extent of their ability to hoard stocks with the help of their financial resources. They may also keep down prices for a while by releasing stocks previously hoarded. But they can neither go on hoarding continuously increasing flood of supplies of perishable food grains at any rate, nor can their hoards, however large, last for any length of time and prices do find their true levels sooner or later. It cannot however, be denied that the miscalculations and manipulations of the speculators do make the price diverge temporarily from its correct level.

The effect of speculation in a commodity on its price may be translated in terms of demand and supply curves. Thus any anticipated increase in demand will shift the futures demand curve above the present one, and any future shortage of supply will shift the futures supply curve above the existing one. The two will then intersect each other at a higher point, which means a rise in the future price. The curves representing the present demand and supply will themselves then tend to coincide with their future counterparts and raise the spot price. Conversely, decrease of demand and increase of supply anticipated by the speculators will shift both the futures curves below the positions of the present ones and a lower future price will result. Sooner than later the curves representing existing conditions of demand and supply will approach and coincide with their corresponding future positions and lower the spot price. The effects of other situations such as simultaneous increases and decreases in both demand and supply, may easily be worked out.

Advantages of Speculation

Speculation does not only provide those engaged in it with an extensive field for the gainful employment of their financial resources and specialized talents. It proves beneficial to the interests of society and that in three important ways viz (1) provision of a continuous market, (2) opportunity offered to actual producers and dealers in a commodity to avoid risks of price fluctuations, and (3) regulation of

operations of the traders and producers of materials and of their manufacturers

Avoidance of Risks of Business by Hedging Admittedly the risks of business of most types have increased enormously with the extension of markets and production on a large scale in anticipation of demand. The manufacturer is evidently exposed to the risk of the prices of his products falling below cost if the price of raw material falls between the date of his purchase of the material and sale of finished goods. The various dealers in agricultural commodities purchase them at the time of the harvest and stock them for sale gradually or in one lot in the expectation of a profit, but the price may fall and result in loss. And the fall in price affects adversely even the growers of crops and producers and stockists of minerals and metals in so far as their costs have been higher than the prices obtainable. If of course prices rise they make exceptional gains.

But producers, manufacturers and stockists are or should be interested in smooth running of their respective businesses at normal margins of profit, they are not speculators. If they undertake risks of price fluctuations their business becomes subject to stoppage or complete breakdown in case of loss and perhaps feverish increase of output in case of exceptional profit. Both are injurious to the interests of the consumers, who expect regular flow of goods to satisfy their customary wants. A businessman himself dislikes these ups and downs unless he happens to be a speculator. But a speculative factory owner will sooner than later ruin his business and perhaps be compelled to join one of the exchanges, which is the proper place for a person of his temperament. The normal man of business, whether he is a producer, stockist or manufacturer, will always like to avoid these risks if he at all can. And the speculator is ever there to meet his needs.

This process of protecting themselves against price fluctuations by various types of businessmen is rightly termed *hedging*. They hedge themselves from risks of loss as the hare hedges itself against risks of seizure by hounds. Hedging in this technical sense means selling against purchases or purchasing against sales more or less simultaneously so as to avoid exceptional gains and losses and secure the rate of profit normal to the trade. Thus the manufacturer, who has purchased in the season 1,00,000 bales of cotton normally spun by

his factory in a year, at say Rs 200, may sell immediately to a speculator in the cotton exchange similar quantity for future delivery at Rs 202. If the price then falls to Rs 150, he will be compelled to sell his yarn at proportionately lower prices and incur a loss on such sales. But the loss will be made good by profit on his sale in the speculative market at Rs 202. Before the date of delivery he will purchase 1,00,000 bales at the lower price of Rs 150 and deliver them at Rs 200 each. The stock of 1,00,000 bales purchased initially in the season will of course be utilized in the factory. In case the price of cotton rises to Rs 250 the price of yarn will rise proportionately and he will make an exceptional gain from spinning, but it will be cancelled by his having to purchase 1,00,000 bales at the higher price of Rs 250 and to deliver them to the speculator to whom he sold at Rs 202. In either case he will be left with the normal rate of profit yielded by a spinning factory.

A manufacturer of jute, who has agreed to supply a given quantity of bags to one or more flour mills at a price fixed in advance on the basis of the price of jute at the time of the contract, may simultaneously enter into a hedge contract in the jute exchange for purchase of the appropriate quantity of jute at the ruling price and thus avoid the loss from the rise in the price of jute. It is of course evident that if the price of jute falls the opportunity to purchase jute at the lower price and to make larger profits will also be lost, the stock of the required raw material having already been purchased at the higher price. It may be noted that the cotton manufacturer of our example purchased and sold cotton, his raw material, at more or less the same price, the jute manufacturer sold jute bags and purchased jute at prices in harmony with each other. Such contracts are entered into by manufacturers in actual practice.

The practice of such hedging is also common among stockists, who may sell for future delivery each lot as they purchase and put into stock. The difference between the price at which they are purchasing during the harvesting season and the future price will normally be enough to remunerate them at a reasonable rate or else they will stop purchasing until the difference is again brought into relation with the

The future price at any time is normally higher than the spot price to cover costs of stocking.

costs of storage, including interest on capital and loss by deterioration—Here also we see simultaneous purchasing and selling at more or less similar prices. Hedging against risks by manufacturers and stockists as well as speculators is also possible, as we have seen, through purchase and sale of options. Hedging is thus seen to be "protecting one's self from loss by betting on both sides."

These opportunities, provided by the speculative market to the stockist and the manufacturer benefit the consumer by lowering the prices of food, cloth and other manufactured goods. For in the absence of such facilities each of them will have to charge a higher price for his services to cover the risks of price fluctuations. The cotton manufacturers will charge higher prices for cloth, the jute factory for bags and the flour miller for the flour that he puts in the market. Thus in the complicated process of the movement of goods from the grower to the consumer in this age of big business we find the speculator as a necessary link in the chain. He takes upon his shoulders the risks of price fluctuations and frees the actual producers to carry on their respective tasks with certainty of normal rewards for their outlays in labour and capital. He insures a factory owner or stockist against risks of price variations as an insurance company insures them against losses from fire or other risks and his rewards are in the nature of premiums paid for providing indemnity against losses. The speculator's resources act as buffers between the producers and consumers, absorbing the shocks of price fluctuations and preventing, to a considerable degree, their communication to the industrial and commercial machinery. His readiness to purchase and sell and to meet the losses incidental to the fulfilment of his contracts, makes the productive machinery run continuously and at a lower cost to the community.

Regulation of Production and Consumption There is a wide gap of both time and space between production and consumption in the modern system of industrial life. Millions of producers—growers, transporters, stockists, manufacturers and distributors—take part in the process of *delivering the goods* to the consumer. They all take decisions and work independently of each other without the existence of any machinery available for either consulting the wishes of the consumers or coordinating their own activities. In this otherwise

each other situation it is the prices of their respective goods and services that provide guidance to each and bring order and harmony in their activities. A high price promises good profit and makes the growers, manufacturers and various intermediaries to redouble their efforts, a low price tends to slow down the speed of their activities.

To the extent that speculation helps to register correctly the future price months and sometimes years ahead of production and consumption it proves a good guide to the consumer as well as the producer. Attention to the coming shortage of supply is drawn by the rise in price resulting from bull operations. The consumer starts purchasing less and thereby helping, though unconsciously, in conserving the existing stocks, the producer on his part tries to increase production in his own interests and helps in augmenting the future supplies or reducing the expected shortage. Both processes are necessary in social interest and they are helped by the speculator's activities. Again a glut expected in the future supplies starts bear sales and lowers the price, both spot and future. The consumers increase their purchases and producers attempt to reduce their output each in his own interest. The existing stocks are consumed at a higher rate per day or week while the rate of output per day or week is reduced; the future glut and crash of price are prevented along with the bankruptcies and breakdowns of productive enterprises that are a necessary consequence of such gluts and price crashes. Says Prof Taussing "The fundamental effect of speculation is to promote the establishment of the equilibrium of supply and demand. It tends to make daily market prices conform to the seasonal market price and to make the seasonal market price such that the whole seasonal supply is disposed of." In the economic stage in which market is limited to a small area and goods are *produced to order* there is neither need nor existence of speculation. More or less similar situation obtains in a strictly planned economy where production and consumption are coordinated by central authority. In between the two lies free economy of today in which price remains the invisible coordinating authority. It may be that economic life is moving back to the state of *production to order*, complications of machine production notwithstanding.

Even the stock exchange speculation in public loan bonds and shares of companies is not in unmixed evil as has been argued by Prof Clay*. Speculators in stock exchange securities do help the investor by giving an indication of the future prospects of a security much in advance besides providing a continuous market in which he can quickly and conveniently realize his holdings in case of need. Without this facility he will have some difficulty in purchasing while the difficulty in selling may deter him from *investing even in new companies*, which Prof Clay admits to be a justifiable operation. Not only companies but public authorities themselves are able to raise funds against new securities because speculators are there to take and hold them in the hope of profits until the real investor is ready to purchase them. Again the speculator's anticipations about future prospects of an industry and the fluctuations caused in share values by such anticipations are a help to the industrialists and company promoters in making their decisions about extensions and contractions of their operations in various lines of productive enterprise.

Even speculation in land is justifiable to the extent that speculators purchase and *develop* land for cultivation or building construction in the hope of demand increasing in the future. They bring it in a state in which the farmer and housebuilder can commence their respective operations. It is true that speculation in land cannot expand or contract output because land is not produced. But its *development* does expand and contract according to changes in demand as foreseen by the dealer in land. Those who extract minerals from the deeper layers of the earth or wheat and cotton from its uppermost crust we call soil are also in a sense developers of natural resources and not creators of anything that did not exist before.

Evils of Speculation

Speculation like any other state or private business activity is open to abuse and likely to harm social interest more than it promotes such interest. Economic controls liable to corrupt practices by officials and businessmen provide an example in the field of public activity. Abuses of speculation are of two types (1) *Speculation by the inexperienced or amateur speculator* who has no knowledge of the future courses of demand and supply or who has insufficient equipment in the matter of intellect and experience to interpret the information he possesses and to

Sometimes even deliveries of whole supplies thus purchased may be taken and payment made from the huge resources marshalled in aid of the campaign. This is called *cornering of supplies* which enables fancy prices being charged from the bears or short sellers or even consumers. This is called a *bear squeeze*:

(b) **Bear raids** or large sales undertaken to lower prices without any expected glut in supplies or fall in demand and to cover it the lower prices so as to make profits at the expense of bulls. These two-fold practices may not be taken as serious if their effects were limited to the mutual squeezes between bulls and bears. Unfortunately their repercussions are wider and affect adversely both production and consumption. Undue rise in prices resulting from unfair bulling reduces consumption and increases production so long as the *corner* does not burst. When it does health of the economic machinery is restored but not without bad after effects. Undue fall in prices in its turn increases the rate of consumption and reduces that of production, making the gap between the two wider which, when discovered, leads to huge shortage in supply and unprecedented rise in price. It is bound to cause under-consumption and unemployment.

(3) **Promotion of get-rich quick mentality** and spirit of gambling is another evil of speculation. It makes so many people expect rewards out of all proportion to their outlays in labour and capital. The interests of the community require, on the other hand, that rewards should be proportioned to efforts. The professional speculator does preposterous, and devote time, energy and capital resources to, his specialized job. Legitimate speculation on his part is essentially productive labour and his rewards, even though high, are really *earned*.

Control of Speculation

Because of these evils some have advocated complete prohibition of all speculation. But recognizing its functions and services in a free economy such a step would evidently be injurious, nor would it be possible to enforce it. Speculative deals may continue secretly, particularly because actual deliveries and payments are absent. Clearing of *differences* among gainers and losers can go on *in cash* without detection and with great loss to the public treasury in so far as speculator's incomes like the *black profits* are bound to be kept secret.

The really desirable measures against speculation are those that prevent undesirable dealings, viz, (a) Dabbling by *outsiders* and those with resources insufficient to fulfil their contracts and (b) Illegitimate practices of the expert and financially strong. The laws of the state and bye-laws of the exchanges do attempt to do this by enforcing publicity of contracts and prices at which they are entered into from day to day. Deposit of proper margins and their maintenance at levels dictated by price fluctuations from time to time is another device usually enforced by rules of business and sometimes by legislation. Forward business is sometimes prohibited. The Calcutta Stock Exchange allows only *spot* transactions, insisting upon delivery and payment within a few days of the contract. But there is great difficulty experienced in practice in enforcing it in the face of collusion by the dealers. And if enforced, it will reduce the strength of the speculative forces that act mightily on price along with those that pervert it. A remedy that is less directly effective but more thorough-going is the rousing of public conscience against all sharp practices and motives of making money by any means.

Hoarding and Profiteering

Consideration may here be given to the war time phenomenon of hoarding of supplies. It is akin to *speculative cornering* in peace time with a view to create artificial scarcity and to make exceptional profits from the inevitable rise in price much above cost or purchase price. There is, however, some real difference between the two. A corner of supplies in normal times and its effect on price can only be *temporary*. The consumer's incomes in money being stable, the cornered supply cannot be disposed of except at its marginal vendibility which is not raised by the corner. The cornerers may succeed in making profits at the expenses of bears, who are bound by contract to cover their sales at any price demanded by those able to sell to them, who happen to be the cornering bulls. But as actual supplies are released price falls even below the level it would have attained in the absence of a corner, for high prices during the course of the corner increase the flow of production and reduce the rate of consumption. Ordinarily corners are too short-lived to produce such an effect on any appreciable scale.

But *hoarding in war time* is positively and continuously profitable in so far as inflation causes a constant expansion in money in-

comes of the consumers as a whole. Marginal vendibility or social marginal utility of the hoarded supplies in terms of money goes on progressively rising and hoarders are not called to account as cornerers are by the complete absence of response from final consumers. Naturally intermediaries are also willing to offer higher prices. Undoubtedly, hoarding is undertaken for *profiteering*, i.e., selling at prices higher than cost to the manufacturer or dealer as the case may be. To the extent that costs rise due to inflation price ought to rise for the normal output to be continued, but even this rise is not necessary in the case of stocks produced in the past at a lower cost. Unfortunately it is not possible for the state to devise machinery for distinguishing between the old and new stocks unless the former are seized and rationed at lower prices while current output is allowed to be sold freely at higher prices. Mere fixation of different prices for old and new stocks will be ineffective because of the law of market price to be the same for the same goods at any time.

Ethically and politically hoarding and profiteering are condemned by public opinion as an attempt to profit at the expense of the nation in distress. Let us examine some of the economic implications of the phenomena, that is, see it in the light of the economic forces of demand and supply without, of course, pronouncing its justifiability or otherwise. (1) In so far as demand price increases through inflation of purchasing power rise in market price looks natural to the economist, its rise later to the extent of rise in costs or supply price is conceded by public opinion as well as public authority under a system of private enterprise. (2) But the rise of the market price above cost temporarily and the accrual of extra profits to the fortunate holder of stocks also look natural to the economist—as natural as fall of price below cost and accrual of losses to the unfortunate holders during depressions caused by deflation. The public ought not to grudge extra profits if it is not willing to provide unusual losses, the one compensates the other. (3) Speculative hoarding and immediate rise in price have their own benefits to the extent that they reflect the inevitable future rise. Apart from the fillip to output, it checks consumption in the present and helps conserve stocks for the more important future uses. Limited Stocks of a drug like cibazol sold below economic price through 'control' may be exhausted by use for minor ailments like ordinary colds and become unavailable for serious complaints like

pneumonia in the future, (4) Again, rise in money profits of the businessman is only nominal-not real-to the extent that the general level of prices rises. Exceptional profit should be estimated not only after taking into consideration rise in the costs of the producer and the dealer but also rises in their costs of living.

This purely economic analysis does not necessarily justify deliberate anti-social activities of the hoarding profiteer. The economist will be as much pleased as anybody else if patriotic and ethical motives induced voluntary foregoing of opportunities to make exceptional profits. All attempts to evoke these instincts should of course be made, they have a definite place in the programme of adjustment of life as a whole from peace to war state. But in so far as economic motive of self-interest proves strong the steps taken against hoarding and profiteering should be well thought out and applied with caution. The most effective remedy would be for the state to take over production-if at all possible. But so far as this is found unpracticable the intermediate measures between complete nationalisation and full freedom of private enterprise should allow the functioning of the economic machinery its choking should at any rate be avoided. The public authority is forced to recognize this in practice.

CHAPTER XIX

MONOPOLY

Part IV of the book deals with the economics of exchange of which the theory of value forms the central problem. The theory itself and the manner in which it works under competition have been examined in the last few chapters. In each particular case of value determination—joint demand joint supply speculation, price control—competition among buyers and competition among sellers were assumed. In this chapter we have to see how value is fixed under monopoly conditions. The subject is of great economic importance not only because public opinion abhors monopoly for the *toll* it levies on the consumers but also because combinations in industry and rise of *big business* have tended to increase the field of monopoly and the scope of its good and evil consequences to society.

The Nature of Monopoly

Monopoly denotes absence of competition. Wherever we find in a market one seller and many buyers we have an example of *monopoly of supply*, we may have *monopoly of demand* if many competing sellers find only one buyer to whom they can sell. For the existence of monopoly it is not however, necessary that there should be only one buyer or one seller. If all the sellers of a commodity combine or agree to stop competition among themselves and to sell as one body monopoly of sale arises. For example, the Tongawallas at certain Railway Stations agree not to outbid one another. Similarly if all would-be bidders at an auction come to an understanding and decide not to go above a certain figure monopoly of purchase results. Thus the essential feature of monopoly is the power to influence price. It may be noted that production or manufacture may be competitive, and yet there may exist a monopoly in sale or supply if all the producers sell their output through a single firm or company appointed.

as selling agents. Thus cement produced by most of the Indian cement concerns is sold by the Cement Marketing Company of India Ltd., which has been formed by them for the purpose. In actual practice monopoly of demand or purchasers is very rare if only because ultimate purchasers, the consumers of most commodities, are innumerable and scattered. An association of electricity consumers of a city may be cited as an example. Monopoly of sale is, however, more common, of which any number of examples will occur to the reader. Thus most books that we read are monopolies of their publishers. The Post office is a monopoly because none but the post office has the legal right to deliver other's letters on payment, supply of electric current and running of tramways in cities are evidently monopolies of sale. It is possible to conceive of a *two sided-monopoly* in which both sellers and buyers bargain collectively. Thus in some industries or localities like Kanpur we have a Labour Union and an Employers' Association. In such a case the power of the employers as purchasers of labour to lower wages is counter-balanced by the power of the labourers as sellers, who act as one body.

In the case of a one sided monopoly, however, the power to influence price in favour of the monopolist is quite substantial even if the monopoly is not *absolute* but only *partial*. Thus the Indian Sugar Syndicate controls the output of the U. P. and Bihar Sugar factories only, and yet it can raise price because the number of factories outside the two Provinces and their output are relatively so small a proportion of the total output that they cannot supply the needs of the whole country and bring down the price even if they wished to do so. Once their supply is exhausted at a lower price, the syndicate can sell at a much higher price. In such a case the other factories find it to their interest to charge the higher price fixed by the Syndicate.

So long as competition prevails monopoly ought not to be supposed to exist. Thus there is no monopoly in the economic sense either in the production of jute or in its manufacture in India. There are lakhs of jute growers competing with one another in the sale of jute, and there are hundreds of independent jute mills producing and selling jute goods. In so far, however, as all the Calcutta Jute Mills have joined the Indian Jute Mills Association, which regulates output through its control over weekly hours of working of the member mills

and maintains thereby price of jute goods, we do have some degree of monopoly in jute manufacture. When, however, the man in the street speaks of India's jute monopoly he speaks in the geographical and not economic sense unless he has in mind the above-mentioned association of jute factories. With the partitioning of India even the geographical monopoly in the production of raw jute has of course ceased to exist. The essential characteristic of monopoly is then *unified control over output or supply and the power to limit it and raise price*. But its supply is naturally limited as in the case of agricultural land or mines, and yet owners are many and competing in selling or leasing their own plots of land and mines we have no monopoly. Nor is the popular idea of indentifying monopoly with big business correct. Thus the Tata Iron & Steel Co. is a very large concern and yet it is not a monopoly in so far as other steel concerns exist and compete with it. Again, monopoly in the real sense exists only if it extends to the whole of the market and does not if it is confined to a small part of it. Thus even if there is only one shop for iron goods in a village or for provisions in a city mohalla there is no monopoly, as too high a price charged for the commodity will provoke competition and bring down the price to the cost including transport and other necessary charges incidental to the running of a shop. It is of course true that monopoly does exist *locally over the period* during which such competition does not arise.

Classification of Monopolies

The various types of monopolies or supply may be classified in three ways —

(A) *According to ownership and operation* we have (1) *Public monopolies* owned and operated by the state such as the Post Office in India and other countries and most of the Municipal Water Works. Here the motive of monopoly is public benefit rather than profit for the state, and (2) *private monopolies* run by firms or companies for profit of their owners. It is these which usually act against social interest and need control or regulation by the state.

(B) *According to area of operation* there are (1) *Local monopolies* like the Agra Electric Supply Co., Ltd. confined to the limits of Agra Municipality and Cantonment Boards, (2) *National monopolies* like the Indian Post Office operating within the territory of the Indian Union.

and (3) *international monopolies* like the patents and copy rights of machines and books recognized by many countries. Many combinations become national monopolies if foreign competition is eliminated by high protective duties, e.g., the Indian Sugar Syndicate.

(C) *According to causes or conditions giving rise to monopoly*

This classification is more important from the point of view of control and regulation. According to causes all monopolies fall under two main heads (1) Natural and (2) Artificial.

Natural Monopolies are those which arise through natural causes, and which are therefore inevitable. Among these there are two types (a) *those based on natural limitation* of the source of a mineral or other material. Thus diamonds are found in a very limited region in S. Africa and it is not possible for a number of competing concerns to operate. Similar is the case with a spa or mineral spring yielding water containing particular medicinal or other qualities. (b) *Those in which competition is either impossible or uneconomical*. Thus it would be very inconvenient, if not impossible, to have the roads of a municipal town crowded with a number of sets of separate poles and overhead wires carrying electrical energy, produced by different electric supply concerns or to have a number of sets of underground water mains for competing water supply companies. And even if it was possible to allow this, cost of production per unit would be too high as each concern will produce and meet only a part of the total demand. If these concerns operated in exclusive areas of the town there will still be monopoly accompanied by the wastefulness of small scale production. Thus wherever there is scope for appreciable economies in costs until the whole supply is produced by one concern monopoly tends to prevail. One of the important conditions of such industries is costly plant and high fixed and low variable costs per unit. This is the case with Railways, Harbours, Tramways and other concerns generally called public utility services. In these cases both the public and the state recognise the fact and the result is the establishment of a public monopoly or a private monopoly controlled by the state.

Artificial Monopolies are those which are created by (1) the state and (2) a private agency. The state of course creates a

monopoly to serve some public interest or purpose, a private agency creates it for serving some private interest or profit

(1) Among *state created monopolies* the following types are important (a) *Patents and copy rights*, granting by law exclusive rights to inventors and authors to encourage their respective activities in public interest. These are often termed *legal monopolies*. But others created or recognized by the state are also legal monopolies. In a wider sense even private combinations are legal so long as they are not banned by laws such as the anti-trust laws of the United States of America. Monopoly rights to sell machines or other patented devices and copy right books are usually extended by the state for a limited period after which they are thrown open to the public. (b) *Fiscal monopolies* created to raise revenue for the state such as salt monopoly in India in the past. State monopoly of tobacco manufacture in France is another example. No doubt revenue can be raised by a tax on the products of private concerns but there is danger of evasion which can be easily prevented by state monopoly. (c) *Consumption monopolies*, such as opium manufacture in India by the state created in order to reduce to the minimum consumption of a harmful drug. Sometimes a monopoly may be created to serve a double purpose i.e., both to raise revenue and control consumption. Thus India's opium monopoly was used in the past for raising substantial revenues from its export to China apart from internal consumption.

All the three types of monopolies created by the state may be termed *social monopolies* as they are created to serve a social purpose and also to distinguish them from privately created monopolies whose purpose is to promote private interest. Very often the state licenses or sanctions by law natural or inevitable monopolies, attaching conditions considered necessary to safeguard public interest. Thus the Provincial Governments in India issue licenses to companies for supply of electric current in towns. Recently the U P Government have taken over the Kanpur Electric Supply concern in its own hands.

(2) *Privately created monopolies* are (a) *the various types of combinations* which are successful in eliminating competition. They may be mergers, trusts or cartels organized vertically or horizontally as described in Chapter IX. A new development in the field of combination is the rise of the *holding company* which holds more

private monopoly. It may also exist in a state of public monopoly, particularly in one created for fiscal or revenue purposes.

(2) Given the motive to secure monopoly profit the power of the monopolist—private or public—to raise price above cost rests on *the power to limit output*. He cannot influence demand which is determined by the incomes and tastes of the consumers. Popularizing of a product through advertisement is no doubt there but it is as much open to competing sellers as to a monopolist. Once any given output is put in the market it will sell at some one price—determined by its marginal vendibility—whether it is sold by a monopolist or by a number of competing sellers. Thus the position and shape of the demand curve for a commodity is beyond the control of the monopolist. It is only by restricting output that a monopolist is able to raise the price in so far as marginal vendibility of a smaller output is higher than that of a larger one.

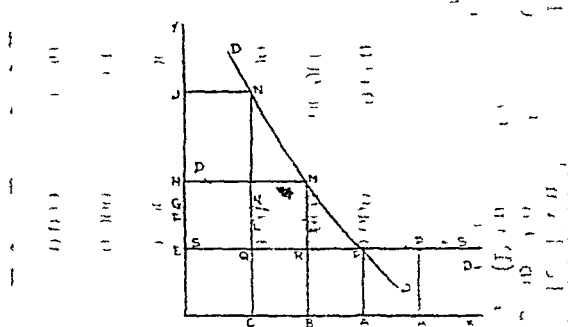
(3) The Monopolist can either *fix the price* which will then determine the output that can be disposed of periodically at that price, or he can *fix the output* that he will produce and put in the market during a given period, which will determine the price that can be obtained for it. He cannot do both—that is, he cannot fix the price at a high level and also sell any quantity he likes to produce. He will probably experiment with both the courses and arrive at some price and output that yield the largest net monopoly profit. It may be noted that a monopolist is interested not in high price or even high profit per unit but in the net monopoly revenue on the total periodical output. If a lower price and larger output and sales bring more net revenue than a higher price and smaller output the monopolist will choose the former. This is indicated by the following monopoly schedule, according to which the price of Rs. 3 per unit and 50,000 units of periodical output give the maximum monopoly revenue of Rs. 20,000. Any price higher or lower than Rs. 3 per unit brings lower profit and is bound to be rejected. The last two columns in the table have been added to illustrate a later point and may be ignored for the present —

MONOPOLY SCHEDULE

Output (Number of units produced)	Price per Unit Rs	Total Sale Proceeds Rs	Total Fixed Costs (Sup plementary Costs) Rs	Variable Cost per Unit. Rs.	Total Vari able Costs (Prime Costs) Rs	Total Costs Rs.	Total Costs per Unit Rs	Net Mono poly Profit Rs	Marginal Cost. Rs	Marginal Revenue Rs
1	2	3	4	5	6	7	8	9	10	11
10,000	5/	50,000	80,000	1	10,000	90,000	9	-40,000	90,000	50,000
20,000	4/8	90,000	80,000	1	20,000	1,00,000	5	-10,000	10,000	10,000
30,000	4/	1,20,000	80,000	1	30,000	1,10,000	3 ² ₃	+10,000	10,000	30,000
39,999	3/8	1,39,996/8	80,000	1	39,999	1,19,999	3	+19,996/8	9,999	19,996/8
50,000	3/	1,50,000	80,000	1	50,000	1,30,000	2 ³ ₅	+20,000	10,000	10,000
60,000	2/8	1,50,000	80,000	1	60,000	1,10,000	2 ¹	+10,000	10,000	0
70,000	2/	1,40,000	80,000	1	70,000	1,50,000	2 ¹ ₇	-10,000	10,000	10,000

(4) Whether a price much above or just a little above cost will yield larger net revenue depends on two economic factors (A) the elasticity of demand for the monopolized commodity and (B) the law of returns under which it is produced

(A) **Elasticity of Demand and monopoly price** The more elastic the demand the greater is the likelihood of price being fixed at a *relatively low level*, for fixation of the price at a level much above cost will reduce the sales much, and even though profit per unit is large aggregate monopoly profit will be reduced. On the other hand, if demand is inelastic high price will not reduce the demand very much and will therefore yield a larger net profit than a lower price will. This is illustrated by the following diagram —



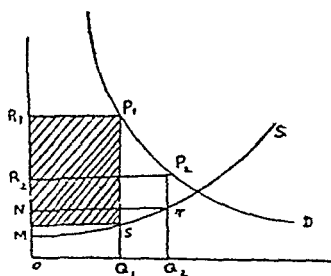
Here the supply curve SS is a constant returns curve, which is neutral as regards high or low price, it has been chosen to see the effect of elasticity of demand in isolation. Demand curves DD and D'D' represent inelastic and elastic demand respectively. Taking first the inelastic curve DD we find that price under competition would have been AP or just equal to cost per unit and quantity produced OA. The monopolist produces less to be able to sell at a price higher than cost. If he produces OB quantity it will sell at Price BM, the total sale proceeds will then be represented by the rectangle OBMH and total cost by the rectangle OBRE. Deducting the latter from the former we get the rectangle ERMH which represents net monopoly revenue. But if a smaller quantity OC is produced it will fetch a price of CN and the monopoly profit (again deducting total cost OCQE from total sale proceeds OCNJ) will be equal to the rectangle EONJ. EONJ is

evidently bigger than ERMH and proves that *the higher price CN yield, more monopoly profit than the lower price BM.*

Now take the elastic curve $D'D'$. Under competition price will be $A'P$ and quantity produced OA' . Reduction of output to OB will raise the price to BM' and yield net monopoly profit equal to the rectangle $ERM'F$. Raising the price to CN' by reducing output to OC the monopoly profit (Total sale proceeds $OCN'G$ —Total costs $OCQE$) will be just $EQN'G$, which is clearly smaller than $ERM'F$, and proves that a *lower price HM' will yield more profit than the higher price CN'*

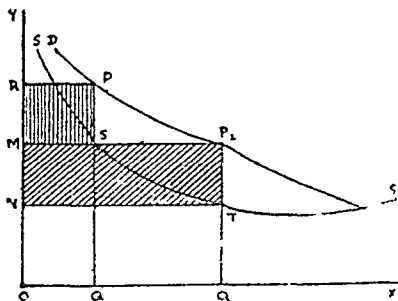
(B) **Laws of returns and monopoly price** (i) *the Law of constant returns or costs* has no active influence over monopoly price in so far as size of output does not affect costs per unit. Here the degree of elasticity of demand will be the governing factor in the fixation of price at a high or low level. This has already been illustrated in the preceding curve (ii) *the price of a commodity produced under Diminishing returns or increasing costs* will tend to be fixed at a relatively high level because a smaller output will increase the monopoly profit in a two-fold manner, it will reduce the costs per unit and raise the price at which each unit can be sold. An inelastic demand will of course reinforce this tendency of the price to be fixed at a high level while elastic demand will temper it down.

The influence of increasing cost may be illustrated with the help of a diagram like this



Reduction of output below the competitive level to OQ_2 will raise the price to Q_2P_2 and yield monopoly profit equal to the rectangle NTP_2R_2 . Further reduction to OQ_1 will raise the price to Q_1P_1 and increase the monopoly profit to the whole of the shaded rectangle MSP_1R_1 . This latter is evidently bigger in area than NTP_2R_2 , representing monopoly profit obtained at the lower price. Thus the higher price Q_1P_1 and smaller output OQ_1 are likely to prevail.

(iii) If produced under increasing returns a relatively large output sold at a relatively low price will yield larger net profit because larger output will mean lower cost of production per unit. If the tendency towards diminishing cost is stronger than the elasticity of demand, cost per unit will fall by more than marginal vendibility and net revenue will increase with an expansion in output even though the latter is necessarily accompanied by a fall in price. This is shown by the example of an increasing returns commodity given in the previous monopoly schedule, and may be illustrated by this diagram —



In this figure DD is the demand curve and SS increasing returns or diminishing cost supply curve. Under competition price and output will be determined by the point of intersection of the two curves. Under monopoly output will be reduced to raise price. If it is reduced to OQ_1 and sold at price Q_1P_1 the net monopoly revenue will be NHP_1R , but if a larger quantity OQ_2 is produced and sold at the lower price of Q_2P_2 the monopoly revenue is increased to NTP_2M . Thus relatively lower price and larger output will prevail.

Marginal Revenue and marginal cost.

A new development in the theory of monopoly price may here be noted. It is that a monopolist will extend his output to the point where *marginal revenue* (meaning net addition made to total sale proceeds by an additional output) and *marginal cost* (meaning addition made to total cost by such additional output) are equal. So long as the former is larger than the latter it will pay him to increase output, and if he reaches a point in output at which marginal cost becomes larger than marginal revenue it will evidently be profitable to reduce output until the two again become equal. As we have already seen* this principle applies under competition as well. But under competition it is assumed that increase in output by a competitor does not affect price, so that marginal revenue is equal to the ruling price multiplied by the

quantity of additional output Under monopoly, however, increase in output lowers the price and the marginal revenue derived from a given increase in output will be equal to the sale proceeds of such additional output minus its cost of production and the reduction in the sale proceeds of the quantity previously produced caused by the fall in price The principle of *monopoly revenue being maximum when marginal cost and marginal revenue are equal* may be seen to be evident by reference to columns 9, 10 and 11 of the monopoly schedule given on page 239

Monopoly price in practice Theoretically (a) monopoly price will be fixed at a level at which it yields maximum possible net revenue, (b) it will be higher than marginal cost of production, and therefore (c) it is against the consumers' interests In practice we find that there are factors that either *make it indeterminate* or tend to *make it lower* than what it would be theoretically There are others that tend to *make it higher*

Among the last type are (1) *High level of wealth and incomes* in a country The marginal utility of money in a rich country like the United States of America is lower and higher prices are easily obtainable However, this effect on price is the result of higher demand price, which cannot be influenced by the monopolist In a poorer country like India or China marginal utility of money is high and monopoly price has to be relatively lower In these also higher prices can be charged from richer classes through *discrimination* as we shall see later (2) *The number and nature of middlemen* intervening between the monopolist producer and consumers Thus a monopolist may sometimes be able to pass on his commodity to the wholesale dealers at prices higher than marginal vendibility in the final market But this is likely to be a temporary phase as middlemen cannot continue to pay prices higher than they can obtain from actual consumers However, the possibility of a high price continuing is greater in the case of producer's goods such as patented machines and monopolized minerals or other products used in manufacturing consumption goods* The higher prices paid for such producer's goods may be absorbed by a number of manufacturers and other intermediaries, and fail to reach the purchasers of consumption goods It is also possible

* See Taussing • Principles Vol I P 197

for such intermediaries to shave off some of the monopolist's profit and to keep it to themselves

Difficulty of arriving exactly at the price and output that will maximize monopoly profit is very great. And then there may be not one but several prices and corresponding quantities of output yielding maximum profit. Thus in practice monopoly price remains largely indeterminate. Even when the price yielding maximum profit has been ascertained *it tends to be pushed down by a number of factors.*

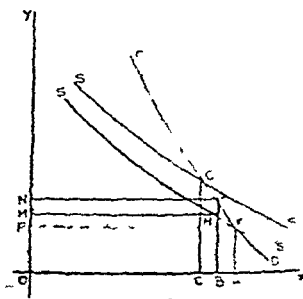
(1) If the price yielding maximum revenue is much higher than cost even bad substitutes may begin to compete. And unless monopoly is protected by law inefficient potential competitors may be tempted to enter the field. (2) There is ever present the danger of public opinion being antagonized and state interference invoked against high price.

Thus the monopolist in his own interest tends to keep the margin of profit low. (3) In the initial stages of a monopolistic enterprise it is usual to sacrifice net revenue with a view to nurse the market. Thus many Railway companies run at a loss for years in the hope of exceptional profits in the future. Such a sacrifice would be impossible in the case of competitors. (4) A monopolist, particularly a local authority providing water supply or tramway service in its area, may be interested more in letting the citizens enjoy consumer's surplus than in high monopoly profit.

Here it may be noted that monopoly profit as such comes directly out of the consumer's surplus. When a commodity sells at Rs 2/- instead of at Re 1, which is its cost of production and at which it would sell under competition every purchaser loses a rupee per unit in consumer's surplus, and it is the aggregate of the losses of all the purchasers that constitutes net monopoly revenue.

(6) **Economies in costs** Economies secured by a monopolist producer are likely to be great enough to reduce the costs considerably below those prevailing under competition.

And then there is always the possibility of the monopoly price being lower than competitive price and yet yielding a substantial net revenue. Monopoly price will of course be higher than cost under monopoly if any net profit is to be secured. This may be illustrated by a diagram.



Let DD be the demand curve, SS the supply curve under competition and S'S' the supply curve under monopoly showing reduction in costs of production. Under competition price will be CG and output OC. Under monopoly output may be increased to OB and sold at price BF. This will then yield net monopoly revenue equal to MHFN although the price BF is lower and output OB larger than their counterparts under competition, viz, CG and OC. No doubt a smaller output, say, OC (the same as it would be under competition) will sell at price CG and bring larger net revenue. But upto this point monopoly is not harmful to social interest because the output and price are the same as under competition, the net profit of the monopolist comes out of the economies introduced by him and not from the consumer's surplus accruing to the consumers under competition. It is of course true that if such a monopoly is nationalized price can be reduced to AE and output increased to OA. This will increase the consumer's surplus by PEFN, which is larger than the loss of net revenue MHFN to the monopolist. The only danger is that state management may not be so efficient.

Discriminating Monopoly

We have seen the forces governing the fixation of monopoly price when a uniform price is charged for the whole output. It is possible for the monopolist to charge different prices from different consumers or then groups and thereby increase his monopoly profits. The former is an example of *simple monopoly*, the latter is termed a *discriminating monopoly*. It is evident that net monopoly revenue can be maximized by charging to each consumer the price he will pay rather than go without the commodity, for this will mean squeezing of every bit of the consumer's surplus. If a monopolist has 100 units of a commodity which he has produced at Re 1 each, he may find it possible to sell one of them to the most eager or the most wealthy buyer at Rs 100, another one at Rs 99 and so on. His net revenue will then be equal to Rs 4050 (Rs 5050—Rs. 100). If he can sell all the 100 units at the uniform price of Rs 10 each his net profit will be only Rs 900. Evidently he cannot sell all the units at Rs 11, much less at Rs 100.

There are two *necessary conditions* for such discrimination to be practised. (1) One is that the commodity shall not be transferable

from one buver to the other or else the rich buyer will buy through the poorer buver. It is also possible that the poorer buvers will become middlemen and share in the monopoly profits of the producer.

(2) Secondly, discrimination *should not evoke public resentment*. Selling the same commodity to different customers at widely different prices is bound to arouse anger and condemnation. The monopolist therefore discriminates in a manner that prevents transfer and at the same time disguises discrimination. Charging each customer a different price for exactly the same commodity is palpably dishonest and is also impracticable except for a small retail shop located in in out of the way corner. The common practice is therefore (1) to divide the market into two or more classes or sections, (2) to charge uniform prices in each section and (3) to introduce some variation in the qualities of the commodity so as to justify difference in prices charged in different sections of the market. The chief devices employed in practice are the following —

(a) **Putting the supply in the market by instalments** Thus most books likely to be popular are published in a number of separate editions each of which is varied as regards price and quality of paper and binding to disguise price variations. The first edition of a limited number of copies say, one or two thousand, may be sold at Rs 10 each when the cost is hardly Re 1 per copy. If the whole edition is sold out to eager and wealthy book-lovers and there appears to be still left sufficient unsatisfied demand at such a high price another similar edition may be produced and sold at the same price. When further sales at this price are not possible, a second edition of 5000 with a little inferior quality of paper and binding may be produced and offered at, say, Rs 7/8. And then a third one of 10,000 with paper binding may be sold at Rs 2/8 per copy. Even in the case of the cheapest edition monopoly profit is large, but the aggregate profit on all the three editions is much larger than it would be if all the copies were published in one edition and sold at the uniform price of Rs 2/8. The marginal vendibility, it may be noted, will be no more than Rs 2/8 if all the 16,000 uniform copies are put in the market in one instalment.

(b) **Class prices** The whole of the supply may be put in the market simultaneously but divided into two or more brands or qualities with different prices for each quality. Thus two editions of a book

may be published together, a royal edition of 1000 at Rs 10 each and a popular edition of 5000 at Rs 5 per copy. The richer class of buyers will purchase the royal edition and the poorer class the popular edition. The consumer's surplus of the more well-to-do class of customers is thus appropriated by the monopolist without arousing hostility. The superior paper and binding of the royal edition feed partly their vanity and partly their aesthetic sense. There are many examples of such discrimination. The seats in railway carriages and cinema halls are divided into a number of classes and varying prices charged for each class. The commodity is the same—transport of the body with the soul in one case and enjoyment of the tamasha in the other, nor is the difference in the cost of providing first and third class seats as great as the difference in their prices. The whole thing is an attempt to charge from each class, by feeding its vanity, what it is willing to pay.

(c) **Use prices** The same thing may be sold at different prices according to the use made of it, provided it is possible to prevent the transfer of the commodity from cheaper to dearer use. The common examples are (1) electric current sold for light and fans in Agia as elsewhere at $4\frac{1}{4}$ annas per unit and for power at about 1 anna per unit, with separate meters for each use, (2) transport over railways of different goods for the same distances at widely varying rates. The more valuable goods like ghee may be charged Rs 2 per maund and the more bulky goods like coal charged at 4 annas per maund for the same distance of, say, 500 miles.

Here it may be noted that charges are based on the *value of service principle* as distinguished from *cost of service principle* which applies under competition. Electric current will not be used at all for power at 4 annas because of cheaper substitutes like coal and crude oil available for power, coal will also become too costly with Rs 2 per maund as transport charge compared to locally available fuels and will therefore not be transported at all. It pays the electric supply and railway companies to produce energy and transport service in bulk at low cost and to sell them at varying prices for different uses. The consumers of these services for both of the uses are themselves benefitted as without such discrimination demand for cheaper use will vanish, output will have to be smaller, costs per unit higher and prices for dearer

uses much higher than what they are under discriminatory tariff charges. Thus discrimination ought not to be condemned. It will be and is

practised by public monopolies like the Post Office and State railways in India and other countries. Economic forces make such discrimination necessary.

(d) **Region prices.** If there it prices may be charged for exactly the same commodity in different areas or regions of the market between which transfer is not possible. In any case such transfer will cost something and difference in price equal to this cost will always be possible. Thus Ford cars, for which some sort of monopoly exists as a speciality, may be produced in bulk at a relatively very low cost, a part of the supply may be sold at high prices in rich America and the remainder disposed of in other countries at much lower prices covering only the prime costs. The profits are made much larger in this way than they would be if the whole output were sold in America at a much lower price, or if a smaller quantity were produced at higher cost and sold at higher price there. This is illustrated in the following imaginary table —

Monthly output (Number of cars)	Cost per unit	Sales in										Total sale proceeds	Net Profit
		Total cost	America			Other countries			Rs	Rs			
			Number	Price per unit	Sale proceeds	Number	Price per unit	Sale proceeds					
10,000	3,500	3,50,00,000	5,000	5,000	2,50,00,000	5,000	3,000	1,50,00,000	1,00,00,000	50,00,000	50,00,000		
10,000	3,500	3,50,00,000	10,000	3,800	3,80,00,000				3,80,00,000	30 00,000	30 00,000		
1,000	5,000	50,00,000	1,000	6,000	60,00,000				60,00,000	10,00,000	10,00,000		

Dumping

Such selling of a commodity at a lower price is known as *dumping* and is resented by the country in which it is dumped as an attack on her industries. However the object of dumping by a monopolist is not to crush foreign rivals but only to enlarge his net revenue. Dumping, whose direct aim is to crush rivals and to recoup losses consequent on present low prices by charging much higher prices in the future, is *destructive dumping* which is usually *temporary*. Dumping by a monopolist at a low price does not mean loss to him, it increases his net profits and may be continued *permanently* to the advantage of the country in which he dumps as well as of himself.

Relation between Discriminating Monopoly and Joint Supply.

Fixation of price under discriminating monopoly *resembles* determination of price under joint supply. Prices of different *products* produced jointly are governed, as we have seen in Chapter XVII, by their respective marginal utilities. Discriminating monopolist also charges prices for *different portions* of his output according to their marginal utilities in different uses or sections of the market. In both price is determined under the *value of service* principle, that is, by demand price irrespective of cost of production. But there is *some difference* between the two.

First, in joint supply costs of the different products are joint and inseparable. It is impossible to charge uniform price per maund for cotton fibre and cotton seed, nor is it possible to apply the *cost of service principle* even if the producer wanted to do so. However, the cost principle does apply over the prices of all the joint products. Under monopoly cost of the whole supply is uniform and by charging uniform prices for all uses or in all sections of the market cost of service principle can easily be applied. Again, under monopoly the total sale proceeds far exceed the total costs and the cost principle has no application. Secondly, in joint supply change in the output of one of the products is inevitably followed by a similar change in the output of the other products. This is not the case under monopoly.

In the case of Railways usually both monopoly and joint cost prevail together. Existence of monopoly is clear, the phenomenon of

joint cost exists to the extent that provision of permanent way, station buildings and many overhead charges are joint not only for running different classes of passenger carriages but also goods waggon. It is difficult if not impossible, for example to separate the costs of transporting a first class and a third class passenger or a maund of coal and a maund of ghee between Agra and Delhi. All classes of traffic is sought to the extent of maximum capacity at rates which each class *can bear*. Thus the value of service principle applies here partly because there is monopoly and partly because costs are largely inseparable if not joint in the strict sense.

Evils of Monopoly

Monopoly power exercised in the interests of the holder has certain serious drawbacks from the social point of view. (1) Price higher than cost means *exploitation of the consumers* in general in the interests of a private firm or company. Consumer's surplus of those able to buy is partly or wholly squeezed, others unable to buy are deprived of the use of the monopolized commodity. (2) Higher price can only be charged by *restricting output*. The field for employment of labour and capital and even natural resources is thus necessarily narrowed. (3) There being no rival in the field *quality of the product is likely to be worse* as to reduce costs and increase profits. Competition would not allow this. Monopoly thus trenches directly on the sovereignty of the consumer in the field of his choices. We are all familiar how in the absence of alternative sources of supply ration shops mix dust in food grains and water in sugar. (4) Wages may be lowered in so far as the field of employment in the monopolistic industry is narrowed through restriction of output and there is no competition among buyers of specialized labour. (5) Restriction of output and of entry of fresh labour and capital resources into the industry results in injury to the national dividend to the extent that marginal productivity of such resources would be higher in the monopolized industry which is closed to them than in the others which they are compelled to enter. (6) Progress through invention of improved machinery and

*Legally we have the right to complain to the Ration Officers but complaints are seldom effective. Against a private monopoly even this ineffective remedy is absent.

processes is obstructed to the extent that spur of competition is removed and exceptional profits stabilized. Not only does the monopolist become indifferent to evolving new machinery and processes, to which competitors are always very alive, but he feels reluctant to instal new equipment evolved by others, for this necessarily means scrapping of the old. Ordinarily he would not undertake it until the profits anticipated from new equipment are more than sufficient to compensate the total loss on old machinery. Thus the consumers in particular, and society in general, are deprived of the advantages of economies in costs promised by new inventions. (7) Lastly monopoly tends to accentuate inequality in the distribution of wealth by swelling the incomes of one or a few owners at the cost of the vast numbers of consumers and workers.

Advantages of Monopoly

But monopoly does possess certain merits. (1) The most important of these is the *economy in costs* of production, resulting from the avoidance of expenses of competitive advertisement and cross-freights and exclusive use of the most efficient plants and processes. When a number of competing establishments combine, machines and processes of the most efficient ones are likely to be adopted and those of the less efficient scrapped, the whole industry can be in a word, most thoroughly rationalized when under one control. It is thus possible, as we have seen, for the monopoly price to be lower than competitive price inspite of large net monopoly revenue accruing to the monopolist. (2) Output can be regulated so as to avoid over-production and under-production and their consequences in the shape of booms and depressions in trade and employment. As a matter of fact monopoly enables the community to overcome some of the chief evils of unplanned economy and is therefore encouraged and sometimes enforced by governments with proper precautions. There is already discernible a pronounced tendency in this direction in many branches of industry, including agriculture and planting. For example, restrictions on output of cotton in America, rubber in Malaya and jute in India during the period of the great trade depression of the thirties, were placed by respective governments.

Control of Monopoly

State control over monopoly resolves itself into devising methods by which its advantages can be secured and its evils avoided in as great

a measure as possible. In the past popular feeling against monopoly was very strong and, in addition to the law of contracts making agreements in restraint of trade void, positive provisions such as Anti-Trust Acts of America were passed against combinations. However it is now being increasingly recognized that prohibition of combination in industries, where increasing returns prevail over the whole of the route, is not only not a but positively harmful. Thus in all industries in which economic costs through monopoly is substantial and control over output is necessary in national and even international interest combination is allowed and sometimes compulsorily enforced by law. However, to prevent the evils of monopoly from arising the state adopts one of the three alternatives (1) nationalisation (2) regulation and (3) fixation.

Nationalization Apart from the Postal services, water works and arms manufacture run publicly in the past and general programme of nationalization in a socialistic state more and more of the bigger and important industries tending towards concentration of control are being taken over by the state. Thus the British Government has already nationalized coal mines, the Railways and the Bank of England, and is actively engaged in promoting legislation for taking over the iron and steel industries. Municipalities are on their part trying to buy out electric supply and tramway companies. The Government of India has already decided to nationalize the Reserve Bank and the Imperial Bank of India. State monopoly helps to avoid the evils of monopoly, and the benefit of whatever profit is yielded by it gets widely distributed in the shape of reduction in taxes or extension and improvement of public services such as health, education and communications. Nationalization is, however, open to certain drawbacks. It is suppression of private initiative, inefficiency in management and corruption among managers and legislators.

Regulation. Where nationalization is not considered desirable private monopoly is regulated. This consists in state control of price, output, quality, wages and/or profit. Thus the Agricultural Marketing Companies Act, 1929, applies to any company as a private monopoly. (1) It cannot charge more than a fixed price per unit of current sold. (2) It must provide new mains and necessary current in any locality where at least three or four consumers apply together for new connections. This provision not

only prevents restriction of output but ensures its extension according to the expanding needs of the town. (3) It cannot increase the voltage above 220 for current supplied for light and fans. In the case of some companies supply of D C current at a maximum voltage of 110 is prescribed. These provisions in a sense prevent deterioration in quality through temptation as A C current and high voltage reduce costs and increase profits. (4) Profits are sometimes actually limited by law to a maximum percentage on paid-up capital, even where they are not so limited, high dividends above, say, 10 per cent are sure to lead to a demand from the public and direction from the Provincial Government for a reduction in rates charged from the consumers. In the case of the Indian Sugar Syndicate Governments of the United Provinces and Bihar regulate, through the Sugar Control Board, price of sugarcane paid to cultivators and wages and bonus payable to employees of sugar factories, in addition to control over prices and output of sugar itself.

Taxation Taxation of a private monopoly, with or without control over price, output etc. is another alternative to nationalization. By this means the bulk of the monopoly profit may be appropriated to public revenues for the benefit of the community at large. It illustrates in a way the blunting of the fangs of a dangerous creature.

In taxing a monopoly it is important to note that a *fixed tax* on profits irrespective of output and also one *varying with profit* such as, say, 20% on annual profits, are not capable of being shifted to the consumers. They will not affect either output or price. But a *tax that varies with output* is usually shifted to the consumers by a reduction in output and raising of the price. This may be illustrated from the figures in the monopoly schedule given on page 239.

Suppose the fixed tax is Rs 10,000 annually levied as a condition of license or on profits. This will increase the total fixed costs from Rs 80,000 to Rs 90,000 for each output. Variable costs per unit as well as in the aggregate will remain unaffected. But the net monopoly profit will be reduced by Rs 10,000 in each case. However, it will still be maximum (Rs 10,000) when the price is Rs. 3 per unit and output 50,000 units. Similarly, if a tax of 10% on profits is levied,

*Due to conditions of scarcity of coal and other things created by the war this provision now operates under certain limitations.

maximum profit will be secured at the same price of Rs 3 and output of 50,000 units. The only effect of this tax varying with profits will be that maximum net revenue of Rs 20,000 will be reduced by 10% to Rs 18,000. But if the tax varies with output, say, four annas per unit, variable cost per unit will become Rs 1½. This will raise the total variable costs and reduce net monopoly profit for each different output. Calculations will easily show that the maximum net profit of Rs 9,997-12-0 will be obtained when price is Rs 3/8 and output 39,999 units. With output 50,000 sold at Rs 3/4 the net profit will be reduced to Rs 7,500.

Thus if a tax has to be levied on a monopoly it should be either a fixed tax or one varying with profit. A tax varying with output is seen to reduce output from 50,000 to 39,999, or say 40,000, and to raise the monopoly price per unit from Rs 3/4 to Rs 3/8 when the tax is only annas four per unit. The consumer here loses more per unit than what the Treasury receives. The monopolist loses Rs 10,002/4, the state receives Rs 10,000, ignoring expenses of collection, the consumers have to pay 8 annas per unit more than before, or in all Rs 19,999/8 on 39,999 units. Adverse effect of such a tax is of course natural in the case of a commodity produced under increasing returns.

Price under Imperfect Competition

Midway between perfect or pure competition and absolute monopoly there stand in the modern industrial life many industries and trades in which competition is *imperfect*. The distinguishing features of such competition are (1) a small number of big sellers or buyers, (2) certain degree of absence of competition among sellers and among buyers due to (a) ignorance of market conditions or mere inertia or (b) intervention of costs of movement of goods or customers between different sections of the market, and (3) existence of a number of special brands of a commodity produced by different sellers and advertised sufficiently to create in the minds of their respective consumers special preference for them. Each of these factors make it possible for the producer to raise price above cost within certain limits—which are of course narrower than those available to the absolute monopolist.

The main difference between monopoly and imperfect competition is one of degree. It lies in the difference in the ranges within

which prices can be raised above cost. Both the monopolist producer and the producer under *imperfect or monopolistic competition* possess the power to influence price, the former's power is greater than that of the latter. Under pure or perfect competition the number of sellers is so large, and the proportion of the output of each of them to the total output is so small, that the power of any one seller to influence price perceptibly through variation in output is almost nil. It is true that if all or many of the sellers expand or contract output simultaneously the price will fall and rise respectively. But such concerted action is accidental and rare—never deliberate or conscious—unless it is the result of an independent variation in price. Rise in price will induce all or most of them to increase output, fall in price will lead them to reduce output. Scattered and independently acting as they all are, price for each is determined by market conditions outside his power. For every one of them the problem consists in adjusting output to the *ruling price* and to changes in price occurring from time to time, always trying to make marginal revenue equal to marginal cost so as to maximise his *normal profits*. He is not concerned, like the monopolistic producer or the producer under imperfect competition, with adjusting output to the price which brings largest net revenue and which he therefore tries to set. It may be noted that marginal revenue obtained from an additional unit of output under competition is equal to the ruling price because it is assumed that increase of output does not affect price. But under both monopoly and imperfect competition marginal revenue is lower than price because addition to output lowers the price itself. The consequence of this is that output is increased under competition to the point where marginal cost and ruling price are equal. Under imperfect competition and under monopoly output is not increased to this extent, as marginal revenue from additional unit of output is less than the ruling price per unit.

To the extent that competition among sellers is shut out by ignorance of the buyers, or by costs of transport between one seller and another, or by the attachment of a set of buyers to a familiar shop in the neighbourhood, the market becomes independent and the power to raise or lower price appears. And it is used to the point at which profits are maximum. If by raising price additional gains are larger than the losses incurred through reduction in sales, price will be raised. And the price will be lowered if gains through additional sales are

greater than the losses occasioned by lowering of the price. Such courses are also open and practised under pure competition, the distinguishing feature here is that raising of price will not lead to any appreciable loss of custom and lowering of the price will not bring any considerable addition to the number of customers. In short elasticity of demand is lower than under pure competition. This applies chiefly to local dealers or shops.

Now take the case of big monopolistic competitors such as manufacturers of a small number of brands of motor cars, cement or iron and steel. In these cases one of the two consequences follow [1] If products are close substitutes competition becomes very keen or cut-throat, meaning rate war or planned underselling, and may lead to (a) either complete suppression by one manufacturer of all the competitors or (b) amalgamation or agreement about price and output. The result is the emergence of monopoly, of which there are actual examples such as the formation of the Cement Marketing Company of India Ltd, the Indian Sugar Syndicate and the Indian Jute Mills Association,

(2) If the products of the several big sellers are sufficiently differentiated in quality in the minds of the buyers (irrespective of whether the difference is genuine or just created by illusive publicity) imperfect competition may continue. The markets or demand and supply schedules of the different brands then become separated *upto a certain extent*, each having its own price and output determined by its producer. They become in a sense separate monopolies, each yielding net monopoly revenue according to the elasticity of its demand and the degree of tendency towards increasing returns or diminishing costs. But the phrase *upto a certain extent* is meaningful. The other brands, though not close substitutes, do begin to attract attention of the habitual purchasers if the price of their familiar brand is raised too much, and every producer has therefore to keep a watch over the demand and supply schedules of his potential competitors. Thus imperfect competition partakes of the nature of monopoly upto a limit and has to face competition beyond this limit. For a fuller account of imperfect competition the reader may refer to Economics by Fairchild, Furness and Buck, which devotes two full Chapters to the subject.

CHAPTER XX

INTERNATIONAL TRADE AND TARIFFS

The Law of Comparative Cost.

The theory of international trade, which explains the origin and continuance of such trade and the determination of relative values of goods entering into it, is based on the *law of comparative cost*, which may be briefly stated as follows.—

International trade rests on differences in *comparative costs* of producing two or more commodities in different countries. In the absence of such a difference in costs no trade can exist. Differences in comparative costs are due to differences in *comparative advantages*, which may be *absolute* or only *relative*. Each country specializes in producing for herself and for export commodity or commodities in which her labour and capital, acting upon her natural resources, possess the *greatest advantage* or the *least disadvantage*, or in other words, in which her labour and capital are most *effective*. Other commodities are then obtained by importation from other countries possessing relatively greater advantages in producing them. Such specialization and trade are advantageous to each trading nation. The total gain accruing from specialization is measured by the difference in comparative costs in the importing and exporting countries. This aggregate gain is then shared by each according to her productive efficiency and the state of reciprocal demand for each other's goods.

This law and the whole theory of international trade based on it may now be explained in detail with suitable examples. A summary has been given at the end of the Chapter. It is important to note at this stage that there is much that is common to both internal and international trade. The real difference lies in comparatively greater immobility of labour and capital between countries than between parts of the same country, with the consequence that wages and profits tend to be equal within a country but may vary widely, from country to country.

Trade based on differences in costs and advantages of specialization.

International trade as well as internal trade rests on the existence of differences in costs and prices of the commodities exchanged between different countries and between different parts of the same country. The basis and advantages of both types of trade are largely similar. Jute is produced at lower cost in Bengal than in Bombay, Cotton is produced at lower cost in the Bombay Presidency than in Bengal. It is to the advantage of both Bengal and Bombay to produce one of the two commodities and to obtain the other through exchange. The same is true of India and Burma producing and exchanging, say, jute and rice. It is true also of two individuals, say, the weaver and the farmer exchanging cloth and wheat between them, each produces his own commodity at a lower cost and obtains that of the other at a lower rate in terms of his own.

Exchange, as we have seen in Chapter XV, brings advantages of specialization. By specialization each party produces more of its own goods and is able to get more of such goods and of the other's goods than it would if it produced both the goods. In *real terms* the gain accrues to each party in the shape of more of the products of the other party obtained in exchange for a given quantity of its own product, or what comes to the same thing, for each hour or day devoted to producing that given quantity of its own product. In *money terms* the gain comes in the shape of lower price paid for the product of the other party than the money cost at which such product can be produced by itself. In the final analysis the real gain or advantage is seen to lie in getting more grain per hour devoted to cloth production by the weaver and more cloth by the farmer per hour or day devoted to the growing of crops. That is also true of specialization and exchange between Bengal and Bombay and between India and Burma.

Differences in costs based on differences in Productive efficiency.

The reason why different countries or parts of a country produce their respective goods at lower costs and sell them at lower prices is the difference in their comparative advantages based on differences in (1) *natural resources* such as soil, climate, mineral deposits and inborn talent of the people, if any, and (2) *acquired resources* in the shape of (a) *quality and quantity of capital equipment* developed through

inventive genius and habits of thrift, and (b) *specialized skill* acquired by workers, foremen and managers through training and experience. It is such differences in advantages as these that explain lower costs and prices of jute in Bengal and of cotton in Bombay, and lower costs and prices of jute in India and of rice in Burma. The differences in comparative advantages and costs may be *absolute* or only *relative*. It may be noted that there may be no difference in comparative advantages and costs i.e., they may be equal. In that case specialization and trade will secure no advantages to either country and trade cannot exist. These *absolute, relative* and *equal* comparative advantages and costs may be explained by taking in example of two countries, say, India and Burma producing and exchanging between them two commodities say, Jute and Rice.

Absolute, Relative and Equal advantages.

Type of Comparative Advantage	Annual Production in maunds per unit of labour and capital			
	INDIA		BURMA	
	Jute	Rice	Jute	Rice
(1) Absolute Advantage	30	20	20	30
(2) Relative Advantage	30	20	20	15
(3) Equal Advantage	(a) 30	20	30	20
	(b) 30	20	15	10

Under the first two cases, where there is difference in comparative advantages and costs, there will be gain from specialization and trade. Under the third case of equal advantages and costs trade cannot exist. The results following from these three cases may now be examined one by one.

Absolute Advantage.

(1) Under case (1) or absolute advantage comparative cost of Jute and Rice in India is 1 maund of Jute equal to $\frac{2}{3}$ maund of Rice or $1\frac{1}{2} = \frac{3}{2}$. In Burma comparative cost of Jute and Rice is 1 maund of Jute equal to $1\frac{1}{2}$ maund of Rice or $1\frac{1}{2} = \frac{3}{2}$. The total concrete difference here in comparative costs is equal to $1\frac{1}{2}$ minus $\frac{2}{3}$, or $\frac{5}{6}$ maunds of rice, per maund of jute. In the absence of specialization and trade, that is, if India and Burma produced both jute and rice, one maund of jute or $\frac{1}{30}$ unit of labour that produces it in India will fetch only $\frac{2}{3}$ maund of rice, while in Burma as much as $1\frac{1}{2}$ maunds of rice or $\frac{1}{20}$ unit of labour that produces it will be required

purchases from India. Both countries gain as rice is obtained by India and jute by Burma cheaper in terms of their respective products and units of labour and capital than they would if each produced both the commodities for itself. In a case like this real wages will be higher in India than in Burma because of the former's superior efficiency in producing both the commodities at lower real cost. However, the money costs of rice in India will be higher than in Burma because of the high rate of money wages set by jute cultivation. In Burma they will be lower because her labour is less effective.

Equal advantage. Specialization and trade will, however, not be profitable if comparative advantages and costs of producing the two commodities were equal in both the countries. Under the case (3) (a) advantages are *absolutely equal* while under (3) (b) they are *relatively equal*. In both the cases comparative costs of producing jute and rice in India and Burma are equal and no trade will arise. Thus under both (a) and (b) comparative costs in India and Burma are $1\frac{1}{2} : \frac{2}{3}$. This will be the ratio at which jute and rice will sell in both India and Burma and there will be no gain from exchange. Both of the commodities will therefore be produced in India and Burma. Equal comparative costs in terms of labour will also bring about equal prices in the two countries, and without a price difference trade will evidently be profitless.

The real difference between Internal and International Trade.

It is now possible to see more definitely the difference between internal and international specialization. Under case (a), that is, of *absolute* differences in producing, say, jute and cotton between Bengal and Bombay Presidency specialization and trade will emerge and will be as profitable as between India and Burma but wages and profits will be equal. Movement of labour and capital will continue so long as wages and profits in Bengal and Bombay are not equalized. But between India and Burma they may remain unequal because labour and capital do not move so easily. But if advantages of Bengal and Bombay are only *relative*, that is, if Bengal produces both jute and cotton at a lower cost than Bombay, all labour and capital will move to Bengal and both commodities will be produced there. Bombay will then produce other goods, if any, in which its advantage is absolutely greater. Thus trade between different parts of a country cannot rest

on mere relative advantages. It is, however, possible that over-crowding and intensive cultivation of both jute and cotton in Bengal may raise costs and lower wages there to the point where wages and costs of producing cotton in Bombay become equal to those prevailing in Bengal. Wages and profits will, of course, be equal in the two provinces in any case.

A very large part of the international trade rests on absolute advantages based on differences in natural resources possessed by different nations in producing their own goods. Such is the trade in many of the minerals and agricultural commodities. Some of the trade in manufactures and agricultural commodities may also be based on similar advantages, particularly that between temperate and tropical countries. But entering into international trade there is yet a large number of commodities which some of the importing countries can produce at lower real cost than the exporting countries. Thus the United States of America can produce linen at lower cost in terms of labour than Ireland from which it is imported. Similarly England can produce butter and cheese at a lower cost in terms of labour than Denmark. Trade in these goods rests on the principle of comparative costs. The money costs of producing linen in America are higher than in Ireland due to higher wages prevailing in other American industries in which the latter's advantage is still higher.

The differences in currency systems and weights and measure and the existence of longer distances and export and import duties between one country and another are not of any fundamental significance in the theory of international trade. They only mean that costs of moving goods from one country to another are a little greater than those of moving goods from one part of a country to another. Sometimes the distance and the cost of transport between two parts of a country may in fact be greater than between two countries. Thus Lahore is much nearer Delhi than Madras. Again octroi duties and terminal taxes levied by municipalities have the same effect on trade as import duties. Weights may also vary and actually they did until lately from village to village in some parts of the United Provinces. No doubt, because of differences in currency systems and exchange fluctuations costs of remittance of funds between countries are larger than between parts of the same country. Yet there are some charges incurred for internal remittance

also. Thus we find that these differences are only those of degree and not of kind. The real difference lies in the comparative immobility of labour and capital and persistence of differences in rates of wages and profits prevailing in different countries.

The rate of interchange. (Barter terms of trade)

The gain from specialization and international exchange is thus seen to be positive. It now remains to examine how it is shared by the trading nations. The aggregate gain is equal to the difference in comparative costs. Taking the example given in case (1) where advantage is absolute, we find the comparative costs of jute and rice to be

in India 1 maund of jute equal to $\frac{2}{3}$ maund of rice
and

in Burma 1 maund of jute equal to $1\frac{1}{2}$ maund of rice

This means that India will not take anything less than $\frac{2}{3}$ maund of rice per maund of jute while Burma will not give more than $1\frac{1}{2}$ maund of rice per maund of jute. Actually for trade to exist India should get a little more than $\frac{2}{3}$ maund of rice and Burma should have to give a little less than $1\frac{1}{2}$ maund of rice per maund of jute. The difference between the comparative costs in India and Burma, viz., $\frac{5}{6}$ maund of rice gives the range within which actual terms of trade will lie. The nearer the rate is to $\frac{2}{3}$ the greater is the advantage to Burma, the gain to India increases as the rate approaches $1\frac{1}{2}$. The advantage of the two countries is equal at the middle point, that is, at the rate of $1\frac{1}{12}$ maunds of rice per one maund of jute.

The actual rate will be determined by the state of *reciprocal demand*, that is, the intensities of demand of the two countries for each other's products. The more inelastic the demand for rice in India and the more elastic the demand for jute in Burma the more favourable the rate will be to Burma, that is, it will lie nearer $\frac{2}{3}$ than $1\frac{1}{2}$, it will then be less than $1\frac{1}{12}$ in any case. Supposing it to settle 1 maund of rice per one maund of jute India's gain is $\frac{1}{6}$ maund of rice while Burma's gain is $\frac{1}{6}$ maund of rice. Similar analysis applies to case (2) where advantage is only relative. In this case the rate will tend to be more favourable to India because of her greater efficiency in producing jute, of course the nature of recipro-

cal demand may still be favourable to Burma and neutralize partly or wholly India's advantage in productive efficiency

Translation into money terms

As has been indicated before, the advantage of one or the other country will be reflected in relative prices of jute and rice in terms of money. Again taking the conditions as given in case (1) above and supposing wages to be equal in India and Burma, say, Rs 300 per labourer per year, the money cost of producing jute and rice in India will be Rs 20 and Rs 30 per maund respectively. In Burma they will be Rs 30 and Rs 20 per maund. Then India will not pay more than Rs 30 per maund for rice because she can grow rice at this cost within her own borders. Burma on her part will not pay more than Rs 30 per maund for jute. Actually if the price settles at Rs 25 per maund for both jute and rice both countries will gain equally. Indians will get rice and Burma will get jute at prices cheaper than those at which they will get them if they were grown at home. If India is more efficient than Burma and her demand for rice more elastic than that of Burma for jute, price of jute will tend to be nearer Rs 30 and price of rice nearer Rs 20, the range of course being Rs 10.

Costs of Transport and Customs Duties.

It is now possible to introduce transport charges and import and export duties. Suppose now that the cost of transport per maund between Indian and Burma is Rs 2 and there is an export duty of Re 1 per maund on jute and an import duty of Re 1 per maund on rice in India, suppose again that Burma also levies an export duty of Re 1 per maund on rice and an import duty of Re 1 per maund on jute. Then the cost of Burman rice in India becomes Rs 24 per maund and the cost of Indian jute in Burma also becomes Rs 24 per maund. There is still the difference of Rs 6 per maund between these prices and the costs in money at which rice can be grown in India and jute in Burma. The extent of the total gain is reduced from Rs 10 to Rs 6. The prices of jute and rice will then lie between Rs 24 and 30. If prices of both are Rs 27 per maund gain is equal. The higher the price of jute above Rs 27 and the lower the price of rice below 27, the greater is the gain of India and vice versa. The relative prices and gains will depend upon the nature of reciprocal

demand This shows that higher costs of transport and customs duties do not introduce any new principle They only increase the money costs and narrow down the gains accruing to the consumers of the two countries from specialization and international trade. So long as any trade exists the proceeds of the customs duties go out of the pockets of the consumers and accrue to the treasuries But if the duties are high enough to equalize differences in costs trade will stop and all gain from such trade will vanish This shows clearly the disadvantage of restricting international trade by levying customs duties

Some Special Cases of International Trade

Two special phenomena may here be explained (a) One is the case of a country which both exports and imports the same commodity. Thus India exports cotton and also imports it Such trade is usually explained by the differences in quality Thus long staple cotton is imported from Egypt for finer varieties of yarn and cloth while part of the Indian output of short staple cotton is used in Indian Mills and another part is exported to countries like Japan which specialize in coarser varieties Similar is the case in regard to different varieties of cloth For all practical purposes imported cotton is a different commodity from the one that is exported from India Egypt has greater advantage in producing long staple and India in producing short staple cotton (b) Then many countries are seen to import a part of the supply of a commodity and to produce another part at home This is common in the case of goods produced under the law of diminishing returns or increasing costs Some of the soil is usually fertile enough in each country to enable it to produce at costs which are as low as in the country or countries possessing the greatest advantages Thus India is now importing many commodities such as jute, cotton and wheat and also producing them at home (c) The prices of *domestic goods* (i.e. those not entering into international trade such as houses and domestic services in different countries need not be uniform, they will vary according to variations in real costs in each But within a country wages in both domestic and export industries will tend to be equal, so that if real wages are low in export industries due to low comparative advantage or inefficiency, they will be low in domestic industries and vice versa

The Balance of Trade.

The difference between the total money values of all the exports from, and imports into, a country during a given period of time, say, a

year, is termed its *balance of trade*. Both exports and imports are *visible* and *invisible*. Visible items are obviously the various types of goods or merchandise exported and imported by a country. Invisible exports and imports denote the many kinds of services exchanged among nations, such as the services of foreign ships and foreign capital and expenses of one country in another. Every item, visible or invisible, which creates a claim in favour of a country is an export from it, while every item which creates a claim against it is an import into it. Thus India's exports include not only tea, jute and other goods she sends out but also interest and dividends, if any, received by her nationals on their foreign investments and expenses of foreign diplomats, missions and tourists in India, her imports similarly include goods imported, interest and dividends earned by foreign investments in this country and the expenses of Indian diplomats, tourists and students in foreign countries. The difference between the values of merchandise exports and imports is called the *visible balance of trade*, that between all the items may be termed the *balance of indebtedness*, which varies from day to day. The two terms are, however, often used in the same sense of difference between total debit and credit items.

The balance of trade is said to be *favourable* when credits exceed debits, *unfavourable* when debits exceed credits. An unfavourable balance has to be liquidated ultimately by sending specie or gold. The deficiency may, however, be met by raising loans in foreign countries. Such loans may then be repaid out of excessive exports and favourable balance in the future. But if excess of exports is not possible even later on gold has to be sent ultimately. Balance in favour of a country may similarly be settled by credits or loans granted by it to her debtor nations, which will have to send later either more goods or *treasure*, i.e. precious metals. Favourable balance is generally favoured by popular opinion because it brings in gold, expands currency and credit, raises prices and profits and increases employment inside a country. Unfavourable balance is disliked because it leads to an outflow of gold, contraction of currency and credit, lowering of prices and profits and diminution in employment. This is the reason why the various countries try to encourage exports through bounties and subsidies and restrict imports through innumerable measures such as prohibition of, or high duties against, imports *fixing of quotas* or maximum quantities.

or values of foreign goods that can be imported during a given period, *exchange restrictions* in the shape of limiting the amounts of foreign currencies made available to importers for making payment for foreign goods.

Thus we find that international trade, particularly import trade, is subjected to so many restrictions. There is constant clamour for shutting off of imports and encouragement to exports. But popular feeling is usually ignorant of the fact that a permanently favourable trade balance is an impossibility. Any country that had such a balance will in course of time draw to itself all the gold that there is in the world. But much before this happens prices in such a country will rise and they will fall in other countries from which gold is drained away. This will itself increase imports into, and discourage exports from, the country with favourable balance of trade and restore the balance between her exports and imports. In case currencies are not convertible into gold, or export and import of gold is prohibited, balance in trade is restored through changes in exchange rate. A country, whose balance of trade is favourable, loses her export trade through a rise in the value of her currency in terms of other currencies, which makes her goods dearer in the world market and the goods of other countries cheaper inside her borders. Even if imports are shut out altogether by such a country her exports will be automatically stopped because other countries will have no gold or foreign exchange left to pay for imports from her. Thus international trade is in the final analysis mere baiter. Payment for exports is received in the form of imports through the foreign exchange mechanism, consisting of banks that purchase and sell foreign drafts. This obvious fact has to be borne in mind in all controversies about free trade and protection, which may now be examined.

Before taking up these topics it may, however, be well to note conditions in which it is apparently possible for countries to have permanently favourable or unfavourable trade balance. A creditor nation like Great Britain in the past used to import much more of goods annually than she exported. But the excess of her imports was really explained by her invisible exports in the shape of large amounts of interest and profits received year by year on her foreign investments and huge freights earned by her enormous merchant fleet. Debtor

mations like India in the past showed, on the other hand, a permanent excess of exports over imports. But here again the favourable trade balance was liquidated year by year through the invisible imports in the form of payments for British ships used in carrying Indian goods and interest and profits earned by British capital invested in India plus savings out of salaries earned by British officers in this country. The situation has of course now been entirely reversed, so that India should now be able to import continually more than she exports so long as the debt owed to her by Great Britain in the shape of *sterling balances* lasts.

Free and Protection,

The term *free trade* denotes the policy of a state in which there are no restrictions placed on international trade. Protection, on the other hand, denotes the policy of a government which restricts foreign trade for the purpose of protecting home industries against foreign competitors. These twin policies of free trade and protection comprise the world's *tariff problem*, which is concerned with the subject of taxes levied on imports and exports of a country. Protection is usually granted in the shape of high import duties on foreign goods. These duties raise the costs of such goods in the importing country and limit or cancel their power to compete with home made goods. Of course, protection is needed only when costs of the protected goods are higher in the home country than their costs in the foreign country or countries plus costs of transport, which themselves act as protective agents. Thus suppose (1) The costs of producing crystal sugar in Java is Rs. 15 per maund at the current rate of exchange between Indian and Javanese currencies and the cost of sea transport is Rs. 2 per maund between Java and Bombay, (2) the cost of producing similar sugar in Kanpur is Rs. 25 per maund and the cost of rail transport is Rs. 2 between Kanpur and Bombay. Then the prices at which Java and Kanpur sugar can sell in Bombay are Rs. 17 and Rs. 27 per maund respectively. This means that Kanpur sugar cannot compete even at Rs. 26 per maund. But if an import duty of Rs. 10 per maund is levied on Java sugar Kanpur sugar can compete on equal terms. Any duty higher than Rs. 10 will of course shut Java sugar altogether unless the Javanese producers are willing for some reason to suffer losses.

until 1925. However, even free trade countries may levy import duties, termed *countervailing duties*, to counteract the undue advantage obtained in the home market by bountified foreign goods. Thus once before the World War II South Africa gave a bounty to her coal producers on coal exported to India and Indian coal producers clamoured for the levy of such countervailing duty on South African coal. Such a duty is supposed to be necessary for securing *fair trade*, that is, fair terms at which home produce can compete with foreign goods. *Retaliation*, or retaliatory duties, denotes import duties levied by a country on the goods of a foreign country as a measure of retaliation against import duties levied by the latter on the goods of the country retaliating. Retaliation has been advocated and adopted by India against South Africa because of the latter's ill-treatment of Indian settlers in that country. *Reciprocity*, on the other hand, means mutual concessions granted to each other's goods by countries having friendly relations.

Under reciprocity we may put preferential treatment extended to each other's goods by agreement among friendly nations. The best example of such mutually preferential treatment is provided by the policy of Imperial Preference widely adopted by the countries of the British Empire during the inter-war period. It consisted in admitting goods coming from empire countries at lower rates of import duty than the rates imposed against similar goods coming from foreign or non-empire countries. Usually import duties were levied according to the scale of protection needed by protected home industries, and duties against foreign goods were raised above this scale rather than lowering duties against empire goods below the scale. This was done to avoid cancellation of the protective effect of an import duty. Imperial preference was however generally disliked in India for fear of its being applied by her foreign government against her best interests through pressure from the British Government exercised for the benefit of powerful British industries.

Advantages of International Trade

The long discussion of the theory of comparative costs has already shown that international trade secures many advantages. They may now be summarised as follows :—

- (1) International trade puts at the disposal of each country goods which it cannot possibly produce at all because of the total unsuitability of its natural resources.
- (2) Even when some of these goods can be

produced the costs are higher than in other countries whose natural and human resources are more suited to their production. Such goods are then obtained by each country at prices much lower than the costs at which they can be produced at home. (3) Advantage is positive even in the case of goods which can be produced at home at lower real costs than in the exporting countries because of relatively greater efficiency in the production of other goods. (4) Natural resources of each country are more fully exploited and the extension of market secures greater economies in costs of goods produced under the law of increasing returns. Real wages and profits in each country are therefore higher than they would be without international trade. (5) Famines are avoided through deficits of food in some countries being made up from contemporary surpluses in others. (6) Productive efficiency of all the countries increases through exchange of improved machinery and through communication of technical improvements in machinery and methods of production made possible because of international trade relations. Ideas travel with goods. (7) It is evident that *free trade* secures these advantages to the fullest extent while *protection* or other restrictions on trade limit or cancel altogether such advantages and prove burdensome to the consumers. These restrictions also breed commercial jealousies and give rise to tariff wars and to armed conflicts between nations.

Disadvantages of International Trade.

International trade has certain drawbacks particularly because of political reasons, and some economists have therefore advocated protection or restrictions on free trade. (1) Thus there is the danger of sacrificing a greater interest of the future to the smaller interest of the present through intensive exploitation of natural resources. For example, mines, forests and even soils are liable to speedy exhaustion through exports of their products. (2) A country is exposed to the risks of loss of foreign markets, cutting off of essential foreign supplies of food and raw materials and of disorganisation of industrial life. Thus national-self sufficiency is advocated as a remedy. (3) There is also greater risk of widespread unemployment resulting from specialization in one or a few industries. For example, England specializes in manufactures and her life is very extensively disturbed by a strike of coal miners. Restrictionists therefore advocate diversification of industry to avoid the evil. (4) One sided development in economic

also leads to adverse social and political effects. Thus predominance of agriculture means ruralisation, loss of skill and intelligence and lower wages and standard of living. Too much of industrialization, on the other hand, concentrates the population in cities and causes deterioration in its health. England, for example, has been experiencing some difficulty in finding enough recruits for her defence services from her predominantly industrial population.

Arguments in favour of Protection

A number of arguments have been advanced from time to time against free trade and in favour of protection. To the extent that they are valid they indicate the disadvantages of international trade in general and free trade in particular. As we shall see some of these have economic force behind them, others are mainly political based on risks of international conflicts and will lose their force if political boundaries were broadened or wars and consequential cessations of trade could be eliminated. A number of other arguments are generally advanced, but they are found on examination to be largely fallacious.

1. The most important of the economic arguments is the **infant industry** argument according to which a country may possess potential advantages in the production of certain goods but may be prevented from developing appropriate industries because of the competition of stronger and experienced foreign rivals. If protection could be granted to such industries they are expected to be able to reduce costs in course of time and to face foreign competition without protection. If the costs are reduced below those of the foreign competitors the gain in the future is obvious and justifies the extra burden on the consumers falling temporarily in the shape of higher prices of the protected goods. Even if costs are reduced to equality with those of the foreign producers costs of transport can be saved to the benefit of the consumers. The force of this argument is admitted by most economists, but they all advocate limitation of protection to industries possessing real potentialities of development and for a temporary period. Thus the Indian Fiscal Commission of 1921 recommended 'discriminating protection' i.e., protection for only those of the Indian Industries which promised full development and ability to face foreign competition unaided after a limited period of protection. Unfortunately once

protection is granted to an industry, it tends to become permanent and means continued exploitation of the vast numbers of consumers for the benefit of a few large producers

2 Diversification of industries Another economic argument is that dependence by a country chiefly on one or just a few industries is very risky. Thus any factor like drought or flood or shrinkage in foreign demand throws the vast majority of the people of India engaged in agriculture out of employment and causes widespread misery. If occupations were more diversified the extent of distress will be limited to a smaller section of the population. In fact, due to the predominance of agriculture disturbances like this are frequent in India, and their adverse effects extend to reduction in railway traffic and earnings and to deficits in the budgets of the various governments.

Predominance of one industry, particularly agriculture and other extractive industries in a country, is also said to be disadvantageous on other grounds. (a) It brings about exhaustion of natural resources like soil and mineral deposits through intensive exploitation for export as well as for home consumption. (b) It means lower real wages which usually prevail in extractive industries because of predominantly unskilled labour required in them. Manufactures, on the other hand, require and develop skill and intelligence and raise wages.

3 Protection of home industries against dumping by powerful foreign rivals is justifiably advocated in special cases. Foreign producers possessing vast resources in capital may under conditions of free trade dump their goods in a country at prices below costs in anticipation of more than recovering the losses incurred when home industries have been ruined and prices can be raised much above costs. Such cases are, however, rare and when they do occur protection should be extended only during the period dumping continues. Protection against more or less permanent sales at lower prices by a foreign monopolist is not so necessary because his aim is not to destroy home industries and the country gets an enduring advantage in the shape of lower prices paid for such goods.

Protection may however, be justifiable in two other similar cases which represent concealed dumping. (a) Thus when the govern-

ment of a foreign country gives a bounty or subsidy on exports to enable her producers to sell below costs in foreign countries the payment of an importing country is justified in imposing import duties equal to the bounty as otherwise home producers will be ousted from the home market (b) Again when a foreign country devalues or depreciates her currency her goods become cheaper in other countries whose currencies remain stable. The latter may then justifiably impose import duties to the extent of depreciation of foreign currency for enabling home producers to continue to compete in their own country. Sometimes the alternative method of equal depreciation of the home currency is adopted. Thus when Britain abandoned the gold standard in 1931 Japan did likewise a few months after to retain her competitive power in the international market. But such competitive race in currency depreciation does good to no country and contracts foreign trade and its advantages.

4 **Advocacy of national self-sufficiency** is mainly a political argument. It is advanced on the ground of avoiding dependence on foreign sources of supply which may be and are actually cut off in times of war. Such a contingency has undoubtedly a very adverse effect on a country's ability to continue war for any length of time and to succeed in winning it. Even civilian economic life is vitally disturbed. Apart from scarcity of food previously imported inability to import raw materials and to export manufactured or raw produce will lead to reduction or cessation of industrial output and employment.

5 Some of the fallacious arguments may now be examined. (a) One of these is that *protection creates market and increases employment* by shutting off of imported goods. But as we have seen stoppage of imports by a country will sooner or later stop her

*This may be explained by an example. Suppose Japanese currency unit called yen is equal to Rs $1\frac{1}{2}$. Then ignoring costs of transport one yen worth of Japanese goods will sell for Rs $\frac{2}{3}$ in India. Now suppose Japan lowers the value of yen to Rs $\frac{3}{4}$ or just 12 annas. Then the same goods will immediately begin to sell for 2 annas or half their previous price. Indian goods then cannot compete because their costs and prices remain as before. A duty of 100% on Japanese goods will raise their prices again to the original figure and enable Indian goods to compete. Similar result can be secured by reducing the value of the rupee to half, which really means restoring the old ratio of 1 yen = Rs $1\frac{1}{2}$.

exports. Other countries will either retaliate at once or they will be compelled sooner than later to stop their own imports from such a country because of lack of gold or the means to continue purchases of her goods. Protection can thus only lead to substitution of home for foreign market, it cannot create either additional market or additional employment. Such substitution is really disadvantageous in so far as it diverts labour and capital from producing goods in which their efficiency and power to compete is greater to the production of goods in which their efficiency is lower. For, if it were higher or even equal, protection will be unnecessary.

(b) Maintenance of wages and standard of living of the people.

It is contended that without protections goods produced by low paid labour abroad will flood the market and home made goods will not be able to compete with them unless wages are reduced to the level of the competitors. This argument is particularly advanced in countries like the United States of America where wages and standard of living are relatively very high. But it is forgotten that higher real wages in a country are the result of her higher efficiency and not of protection. It is a matter of common knowledge that many types of goods produced without any protection by highly paid workers in America and England compete favourably in India and China where wages are extremely low. Protection can keep up money wages in protected industries only by raising prices and reducing real wages. Again, if all goods are protected in America by prohibitively high import duties her exports will tend to disappear and then the costs and prices of goods formerly imported will rise and reduce real wages.

(c) Taxing the foreigner by means of import duties. The mistaken idea here is that the foreign producer bears the import duty. He cannot raise the price of his goods for fear of reduction in demand. This is not correct. High protective duties usually cut off imports altogether. At least that is the intention of the imposing authority and there can then be no taxation of the foreigner. The duty is as a rule shifted to the consumer of importing country unless in the rare case where she has the monopoly of demand and the foreign producer has no other alternative market for his goods. But even then he cannot continue selling at a loss.

Drawbacks of Protection

Protection has several adverse effects on the economic life of a nation. (1) It diverts labour and capital from more to less productive

occupations. Obviously a country's comparative advantage in the production of protected goods is less than that of some other country against which no protection is sought. This means that benefits of specialization in the most advantageous industries is wholly or partly lost and the consumers suffer the burden of higher prices. The burden is likely to be particularly heavy in poorer countries like India. And of course consumers' loss goes not to increase national revenues but to enrich the producers of protected goods. (2) To the extent that consumers are poorer than producers protection accentuates inequality in the distribution of incomes and wealth. (3) Protection fosters monopoly. Once foreign competition is shut out by high protective duties it becomes profitable to promote trustification or combination of internal competitors with a view to secure monopoly power inside the tariff barriers. Without protection foreign competition will be there to prevent emergence of such power to reduce output and raise price. (4) Sheltered under the wings of protective duties firms are likely to become slack in their search for improvement in technique and organisation. Thus protection may act as a check to industrial progress. The spur of world-wide competition usually proves stronger than national competition in this matter. (5) Protection is very likely to lead to political corruption. Huge profits accumulated by protected industries are sometimes used to bribe the legislators for continuance of protection to them even after the period of 'nursing' is over.

The Theory of International Trade (Summary)

The whole theory of international trade comprising the law of comparative costs and corollaries flowing from it may now be summarised as follows —

(1) International trade rests on the existence of differences in comparative costs of producing two or more commodities in the countries engaged in such trade. In the absence of such a difference no trade can arise.

(2) Differences in comparative costs are based on differences in comparative advantages resulting from variations in natural and human resources possessed by different countries.

(3) Each country specializes in (that is produces for herself and for export) one or more commodities in the production of which

her labour and capital are most effective, that is, in which she possesses the greatest comparative advantage and whose cost is therefore lower than in other countries. Other commodities are obtained in exchange for her own goods by importation from other countries possessing greater advantages in the former. Goods produced under increasing costs may be partly produced at home and partly imported from abroad.

(4) The greatest comparative advantages possessed by trading nations may be absolute or only relative. When they are absolute both real and money costs are lower than in other countries. When advantages are only relative real costs in the exporting country are higher than in some other country or countries but money costs are actually lower in it. Lower money costs are no doubt due in such a case to lower money wages, which are the natural consequence of relatively lower efficiency.

(5) 'Increasing and decreasing costs indicate a falling or rising comparative advantage.' Exports of the increasing cost commodities will tend to decline while those of decreasing cost goods will tend to expand with increase in their demand and output. Part of the supply of increasing cost commodities will be produced locally in each country on more fertile or productive soils and other natural resources unless these latter do not exist or are so unproductive as to be unable to produce at competitive rates.

(6) Specialization by, and trade among, nations results in gain to all of them. Each nation or country obtains its imports at the lowest possible cost in both real and money terms. The gain in **real terms** consists in obtaining more of imported commodities per unit of goods produced by a country or per unit of labour spent in producing such goods. It accrues to the people in the shape of higher real wages and profits, or incomes in general. The higher real incomes may take the form of higher money incomes or lower prices.

(7) The aggregate gain from international specialization and trade is equal to the difference in the comparative costs of producing the commodities in the importing and exporting countries. The share of each country in this gain, or *the rate of interchange*, is determined by (a) her own productive efficiency and (b) the state of reciprocal

demand. The higher the comparative advantage in producing her own goods and the more inelastic the demand for such goods in other countries the more favourable the rate of interchange is likely to be to her, and vice versa.

8 Prices and money incomes are so adjusted in different countries as to bring real incomes in them in conformity with their productive efficiencies and elasticities of demand for each others products. The necessary adjustments in their price income structures are brought about by one sided flow of goods and (a) movements of specie in the reverse direction under the gold standard and (b) shifts in the exchange rate under inconvertible paper standard. These movements and consequential adjustments in prices and incomes continue until equilibrium in trade is restored, that is, until the values of total exports and imports—visible and invisible—of each country are equal or nearly so.

(9) When trade is in equilibrium high wages are the results of high efficiency or high comparative advantage in production and do not check exports, nor do low wages increase exports.

(10) The freer the trade the greater is the gain accruing to each country. Any factor that impedes the free flow of goods, or raises the costs of trade in them such as exchange restrictions and export and import taxes, narrows down the difference between comparative costs and the extent of gain from specialization.

(11) The fundamental difference between internal and external trade lies in comparative immobility of labour and to some extent of capital between different countries as against freer mobility between different parts of the same country. The result of this is that real wages and profits may differ widely in countries engaged in international trade, within a country they tend to be equalized except to the extent that there exist any non competing groups. Specialization and trade between different parts of a country can exist only when advantages of each part are absolute, between different countries trade may and does rest in many cases on merely relative advantages.

(12) Prices of all goods entering into international exchange are nearly equal in all countries as they are in different parts of a country. Prices of domestic goods may vary from country to country, but wages prevailing in domestic and export industries within a country

will tend to be equal, with the result that if they are low in the latter they will be low in the former also .

The Tariff Problem in India in relation to the World Trade and Tariffs

The advent of British rule in India largely coincided with the advent of industrial revolution in the western countries . As Great Britain led other nations in the march towards large scale industrialization the policy of free trade suited her interest best throughout the larger part of the nineteenth century and early part of the twentieth . It was to her interest to import food and raw materials as cheaply as possible and to sell as freely as possible her manufactured goods throughout the world . She naturally became a free trader in both theory and practice and applied the same policy in her colonies and dependencies like India . In her cottage industries such as there existed, decayed against the onslaught of cheap machine made goods, while large scale industry could not emerge without the help of protective duties, which the British Government in India constantly refused to apply . However, rapid industrialization of Germany and Japan under state protection led to strong agitation in favour of a policy of industrial protection in India and the government was compelled to adopt it in 1924 according to the recommendations of the Fiscal Commission of 1921, (Chairman-Sir Ibrahim Rahimatoolla)

The Government of India has applied in India what has been called by the Fiscal Commission 'discriminating protection', that is, protection granted for a temporary period to *nascent* industries, which may be expected to come to maturity in course of time and to be able to face foreign competition without protection . Indian businessmen and politicians criticized 'discriminating protection' as a very halting measure and clamoured for a more bolder policy of protection . However many industries have made rapid progress since 1914 even under this halting policy until India had become by the time World War II started self-sufficient or nearly so in the manufacture of cloth, iron and steel, cement, matches, sugar and paper among several other products meeting essential needs . Of course the two World Wars have been of special help in India's progress towards industrialization . By cutting off of foreign supplies and raising the prices of various goods a war always makes it profitable to start new and extend old manufactures.

In the period between the two World Wars, i.e., between 1919 and 1939 international trade suffered a great set-back due mainly to three causes (1) Emergence of huge international debts payable in gold (a) by Germany to allied countries as war indemnity and (b) by the latter to America in repayment of loans contracted during the War of 1914-18 (2) These debt payments led to the concentration of the bulks of world's monetary gold in America and France, which refused to receive their foreign claims in the shape of goods by imposing high tariff walls against them (3) Scramble for gold on the part of Germany and the allied nations to meet their debts, and by many countries to revive gold standard, made them throw their goods on the world market at any price and caused precipitate fall in the general level of prices particularly of raw produce, and led to the great trade depression and widespread unemployment throughout the world from 1930 onwards (4) This in its turn reduced the purchasing powers of the masses of the people particularly in agricultural countries like India and Australia, which found difficulty in meeting interest and other dues on their foreign debts (5) The rise of Nazism in Germany and of Fascism in Italy led to huge war preparations on their part and to very strict regulation of their foreign trade (6) Most countries then tried to meet the situation by restricting imports through such measures as exchange control and bilateral trade agreements, fixing quotas of foreign goods each country was willing to receive from the other

The situation was met in India by the adoption of Imperial Preference in terms of the Ottawa agreement raising of import duties against certain foreign goods and bilateral trade agreements with Japan and Great Britain. The policy of imperial preference, professedly adopted by the Government of India in the mutual interests of India and other Empire countries, met with hostility in India due to the fear of her foreign government subordinating India's interests to those of Great Britain and her self governing dominions. With a free government in India agreements about preferential treatment with Empire countries will now be based on perfect reciprocity and need not excite any biased opposition. Throughout the inter-war period the tariff policy in India as elsewhere was directed towards increasing exports and restricting imports as much as possible. Such a policy on the part of the world as a whole was doomed to failure as it is

ports that pay for exports and the two must balance. The position during the World War II was entirely reversed. The problem now consisted not in encouraging exports but (a) in retaining them, (b) in obtaining as much from abroad as possible for the successful prosecution of the War, and (c) in preventing trade with enemy countries so as to starve them and then war effort. India during this period of the War was made to supply huge quantities of her own goods to the Empire countries and foreign allies and was literally starved of imports. It is thus that she built up the huge sterling balances, which represent excess of exports over imports.

Since the cessation of the war in 1945 the situation of scarcity created by the war is continuing. Barring the United States of America, and perhaps Canada, the World, including India, is crying for imports and tariff policies are now directed to securing as much as possible of essential goods from abroad against anything that can be spared from home consumption and has to be sent to pay for imports. Stimulation of exports is now sought by the British Minister, Sir Stafford Cripps, for example, not to build up a favourable trade balance and gold reserve but to be able to import for maintaining the standard of living of the British people and to meet foreign indebtedness in the shape of sterling balances of the Empire countries and dollar loans contracted from America since the end of the war.

India is herself in a similar position except that she has large accumulations of credit balances which she can use to fill the gap between her vast needs of foreign goods and relatively small supplies of her own goods that can be spared for exports. Unfortunately, these credits or *sterling balances* as they are called, are being released by her debtor, Great Britain, in dribbles and there are not available in adequate quantities the capital goods that India needs in the sterling or soft currency area, in which alone the bulk of the sterling released can be spent. The situation is well summed up in the words of India's Commerce Minister, Mr K C Neogy: "The necessity to export arises primarily from the necessity to import. Our dependence on imports has never been so great as it is today. ... the contribution which our available balances (i.e. released

Extract from M Neogy's speech in the third meeting of the Export Advisory Council in Delhi held in November 1948

sterling balances) can make is of a small order and can finance only a fraction of our total imports, . . . the second consideration is that of preserving our markets overseas . . . unless we keep on making some exports of cloth to the markets where our cloth has established itself during the past years, we shall surely lose these markets." He then refers to the need for trade agreements for "the procurement of the goods and commodities which we ourselves need"

America is the only country that is in a position to export but the absence of exportable surplus and gold in the countries needing her goods has caused dollar scarcity. America's need to export being as necessary as other countries need to import the former is extending dollar credits or loans in various ways. She is granting huge credits for the European Recovery Programme and making available loans through the newly established International Bank for Recovery and Development to the countries devastated by the war and to others which are economically backward and need capital for developing their natural and human resources.

With the advent of political freedom in the country and widespread interest in planning the tariff problem has assumed an altogether new content in India. There is no question now of foreign interests preventing Indian industries from getting the necessary protection. Immediately, as we have seen there is such scarcity of goods that few industries actually stand in need of protection. As and when foreign competition grows the Government of India can be depended upon to extend any measure of protection that becomes necessary from time to time. The Governments at the centre and in the Provinces are all actively interested in industrial progress on a planned and yet rapid scale. The real question of importance to the Indian industrialist of today is not protection against foreign competition but assurance against nationalization at arbitrary rates of compensation.

CHAPTER XXI

THE PROBLEM OF DISTRIBUTION

The Problem

Distribution, as a division of economics, is concerned with the study of the principles that govern the distribution or sharing of the wealth among those who produce it. It deals primarily with the division of the income or *periodical output of wealth* among the members of a nation or society and not with the *stock of wealth* existing at any time, the latter stands already distributed in the sense of being possessed by the owners. It will be seen, as we proceed, that the *distribution of wealth* affects the *distribution of income* in a society in which land and capital are privately owned and yield incomes to their owners apart from wages and profits earned from active work. The incomes accruing to owners of wealth or property are usually larger than those of the persons who do not own such instruments of production. And of course the larger the annual income of an individual or family the greater is the chance of the stock of wealth possessed by it growing and the share of income coming to it becoming larger in the future. Thus the two distributions—of income as a flow and of stock as a fund—are interconnected and yet one ought to be distinguished from the other.

Another point to be noted here is that we may examine distribution of income among the sharers from two points of view. (1) We may study the forces that determine the shares of the income going to the owners of the four factors of production as rent, interest, wages and profits. This is *functional or class distribution*, whose study comprises an inquiry into principles governing the shares accruing to members of the community as landlords, capitalists, labourers and organisers. Here we are concerned with why rates of rent or wages etc., are what they are at any time and how they rise and fall. It is this kind of distribution that is the main theme of most text-books, including this one. But the inquiry may be undertaken from another standpoint. (2) We may try to examine the forces determining the

shares of the total income accruing to individuals or families. This is *personal distribution*, whose study explains the differences in incomes received by the individual members of a nation. This *problem of inequality in incomes* and in *wealth*, on which it is based, is increasingly coming into prominence in practical life as well as in theoretical analysis in economic literature.

The two studies are not fundamentally different, it may be noted. They are complementary in nature. As we explain the emergence and fluctuations in rent, interest and wages, we explain at the same time differences in incomes of individuals who own land and capital and also work for wages and those who are mere wage earners. The total income of an individual or family may consist of only one kind of share or of all or some of the shares. The real significance of the distinction between personal and class distribution lies in the modern emphasis on economic equality and focussing attention on inequality arising from private ownership of land and capital. It is, however, a fact that a number of mere wages-earners, film stars for example have much larger incomes than many landlords and capitalists. This question of personal distribution and inequality has been dealt with in short at the end of this chapter.

Importance of the Problem

With great improvements in the technique of production and consequent changes in economic life in modern times emphasis has tended to shift from production to distribution of wealth. While older economists spoke largely of *productive efficiency* modern economic literature draws pointed attention towards inequality in distribution and appeals for *distributive justice*. The reasons are obvious. (1) Distribution as an economic problem did not exist in primitive stages of society. In the hunting stage each individual consumed what he produced, there was none to claim share in his catch. As family life developed the members began to produce *jointly* but division was according to need of each member of the family resting on mutual affection. The basis of distribution was *non economic*. This is also the ideal of the ideally communistic society but is found to be difficult to apply in practice as we shall see. Then as the division of labour among families appears conflict of interest arises but in the field of exchange and not in that of distribution. It

becomes a question of how much each family gets of the produce of others in exchange for a given quantity of its own. The problem is one of bargaining strength. The division of wealth produced and obtained through exchange among the members of each family is still based on affection.

2) But with the emergence of production in bigger factories and firms and the separation of ownership of the factors of production engaged in them, division of total output assumes the form we are witnessing in modern times. The shares come to each agent in the shape of money incomes, yet they represent after all shares in the money value of the total net product of the productive establishment. Conflict of interest is then bound to arise.

(3) The question has become acute with large fortunes built up by owners of land and capital and huge annual incomes accruing to them as against the property and meagre incomes of the mere wage earners, who constitute the vast bulk of the population in each country. The political power of the latter in democratic countries has led them to attack the very basis of the productive and distributive system, namely, the rights of private ownership of the means of production and free enterprise.

(4) The recurrence of the phenomenon of over-production or under-consumption in the recent economic history of the world has put a fresh weapon of attack in the hands of the wage earners and their leaders. From time to time we do find a situation in which food and cloth are rotting in the godowns of farmers and factory owners while hungry mouths and unclad or half-clad bodies are there to consume every bit of the idle stocks. The producers are eager to sell and the consumers eager to buy, but the latter have not the means to pay the prices demanded by the former according to costs incurred by them. This paradox of *poverty in plenty* is ascribed to the faulty system of distribution of the national income. The bulk of the share accruing to the rich is invested, that coming to the poor is not enough to purchase the goods they have produced. Nationalization of the means of production and centralized planning of production and distribution, are advocated as remedies.

The National Dividend

Whether we consider distribution from the point of view of individuals or classes the amount of wealth available for distribution during

A part of the national dividend is consumed every year by the people and another part goes to increase the capital of the community. In terms of money income the former part is *spent* and the latter *saved*. Prof. Irving Fisher of America includes in the national dividend only that part of the net product which enters directly into consumption and excludes the part that is saved. It may be noted that in a stationary state where only replacement of worn out capital is possible concepts of Fisher and Marshall will be identical. However, an increase in the national dividend *from the production standpoint* of Marshall is expected to increase the dividend *from the consumption standpoint* of Fisher in future years when addition to capital will increase the productive power of the community.

National dividend and welfare Evidently the size of the national dividend has a direct relation to national welfare for it is from this that the various agents of production get their shares. To quote again Dr. Marshall 'it is it once the aggregate 'net product of, and the sole source of payment for, all the agents of production within the country. It is divided up into earnings of labour, interest of capital and lastly the producer's surplus or rent of land. It constitutes the whole of them, and the whole of it is distributed among them, the larger it is, the larger other things being equal, will be the share of each of them.'

An increase in national dividend is expected to put more of wealth at the disposal of each class or individual, but not so an increase in national income which may be due to rise in prices. Thus Indian national income in terms of money is bound to be many times what it was in 1939 but may actually be lower in real terms because of higher prices. Another point to be noted is that absolute size of the dividend or income does not give us any definite idea of welfare, it is the per capita income that is of real significance. We can compare welfare of one nation with that of another or of the same nation during two periods with the figures of per capita and not total incomes. Distribution of the national income is also of significance in estimating welfare. Thus of the two countries having the same per capita income, welfare is greater where wealth is more evenly distributed. For utility of money or even goods and services at the margin is greater to the poor than to the rich. This means that welfare can be promoted by greater equalization of incomes, this

is why such equalization is increasingly becoming a matter of policy in public finance. However we must not forget that beyond a certain point this may reduce the size of the dividend by more than the benefit derived from redistribution through measures of taxation and public expenditure.

The Process of Distribution

The national dividend is a flow and not a fund. It gets distributed as it is produced from day to day and not pooled into a huge stock and then apportioned to the parties entitled to it. In a communistic state like the Soviet Russia production and distribution are under state control. But in a free economy the private organiser or enterpriser controls production and, it is through him that distribution of the product takes place. He engages the services of the other factors of production on a contractual basis and pays them their dues by the hour, month or year, taking as his reward the profit that is left after satisfying the claims of the other agents of production. Thus he is a residual claimant, sometimes making huge profits, sometimes losses, ordinarily getting a reasonable reward for his work and enterprise. In cases where the organiser himself provides land, labour and capital needed in his enterprise, he receives the whole of the net product and his income then consists of so many elements—rent, wages, interest as well as profits.

In a money economy the whole of the product is converted into money as it is turned out, and wages, interest and rent are paid out of it. Usually these payments are made much before the product is ready for sale and price realized from the purchasers. The enterpriser in a way advances the amounts of rent, wages and interest as they fall due out of his own capital or from funds borrowed by him. He has thus to meet interest charges on such loans and naturally pays something less as rent and wages than the value of the produce attributable to land and labour.

In this process private ownership of the four factors of production is taken for granted. Landlords and capitalists get rent and interest for providing the services of their respective factors to the productive establishments just as labourers and organizers get wages and profits for their own services.

'Shares governed by Market values of the Factors

Evidently it is the market value of the service of each agent of production that determines its share. And the market value itself is governed by the conditions of its demand and supply like the market values of ordinary consumption goods. This is the reason why some economists have stated that the problem of distribution is only a part of the general problem of value. This is true to a large extent but there is an important difference in the valuation of services of the agents of production and in the valuation of commodities, arising from the differences in the conditions of the supply of the former and from the fact that in the case of productive services there is a human element involved. Thus we are all interested in pieces of goods going down as much as possible, but not in wages falling even if we are not workers ourselves. On the other hand, the state, supported by the public in general attempts to keep up wages through minimum wages legislation. Yet the level of wages and remunerations of other factors of production are to a large extent determined by the balancing of their demand and supplies.

Demand for the services of productive agents. The demand for the services of agents of production is an indirect or derived demand arising from the demand for the commodities they help to produce. The demand price of land or labour is determined by its marginal productivity, that is, what an additional acre of land or an additional labourer would add to the product obtained without such addition. This marginal productivity of each agent of production tends to diminish with every addition to its quantity, other factors and the methods of production remaining unchanged. The tendency may be termed the law of diminishing marginal productivity, which has great influence over the determination of the shares of the various agents of production. The demand price of the service of each agent of production diminishes with every increase in its supply without an increase in the other factors of production. An addition to the number of labourers tends always to reduce wages per man just as an increase in the supply of land and capital depresses rent and interest. An organiser usually pushes in his own interest employment of each agent upto the point where its marginal product equals its reward. For example if an additional labourer

increases output by Rs 400 per year and his wage is Rs 300 per year his employment yields to the employer a net profit of Rs 100. Such profit will continue until value of marginal output of labour is equal to the wage paid. The same is true of capital and land. This shows how remuneration of each agent is governed by its marginal productivity. However, in so far as the organizer pays the reward before the produce is sold and its money value realized he makes a deduction equal to interest, and thus remuneration tends to be equal not to the marginal productivity but to the discounted marginal productivity of a factor.

Supply of the services of productive agents Again, as in the case of commodities, there is a supply price in the case of the services of productive factors except land which is a free gift. And as the number of say, labourers increases then marginal productivity and demand prices decline, but the reduction in wages is limited by the cost of rearing and maintaining labourers. Similarly, a rise in wage brought about by a decline in the number of labourers and an increase in then marginal productivity is limited by the cost of rearing labour, a high wage ultimately tending to encourage marriages and to make possible the rearing of larger families among the labourers. Even the profits are governed by the demand for and the supply of organising and entrepreneurial ability. A continuous loss or unreasonably low profits tend to reduce the supply of enterprise and more than adequate profits tend to increase its supply. Capital on its part has a similar supply price governed by the inconvenience or *wasting* involved in saving. Land in its natural state being without cost has no such supply price and its remuneration, rent is therefore determined wholly by its demand price based on its marginal productivity. Determination of each of these shares in the national dividend has been dealt with in the succeeding chapters.

Changes in the supply of Competing and Cooperating Factors

A significant effect of the law of diminishing marginal productivity is that the rate of remuneration of the factor, whose supply increases, goes down while the rates of remuneration of others, whose supply remains fixed, rise. An increase in the supply of labour, quantities of other factors remaining as they are, reduces marginal productivity of labour and lowers wages, marginal

productivities of land, capital and organisation rise and so do rates of rent, interest and profits. But if labour force remains stationary and land, capital and organizing ability increase wages rise and rent, interest and profits go down. Thus it is to the interest of wage earners that new land and mines should be brought into use and that capital and enterprise should grow. On the other hand, an increase in their numbers either through immigration or natural increase through excess of births over deaths depresses their wages. This is the economic reason behind the policies of restrictions on immigration and encouragement to emigration of labour. It is only some of the sparsely populated countries rich in natural resources such as America and Australia that admit foreigners. But even these do it on a restricted scale to safeguard the interests of the future. Their almost total ban against admitting coloured people is of course based on racial grounds.

The adverse effect of increase in competitors is very universal. It applies as much in the case of factors of production as in that of commodities. Each unit of labour competes with other units of similar labour and also with units of labour saving machinery. On the other hand, units of other factors of production compete for, or cooperate with, units of labour. An increase in the units of land, capital and organization means that each unit of labour gets cooperation from a larger quantity of other factors and its marginal productivity increases. The same is true of other factors. An increase in capital lowers interest, but increase in labour and available land raises the rate of interest. Thus it is that increase in *competing factors* is abhorred while that in *cooperating factors* is welcomed. It may, however, be noted that there are non-competing or cooperating groups among labourers. For example, skilled labourers like misters and foremen engaged in an industry stand to gain through an increase in the number of unskilled employees, an increase in their own number, however, goes against them and in favour of unskilled labour.

The Principal of Substitution

We have already seen how the principle of substitution is applied in production and consumption. It has its influence on distribution in so far as production and distribution are closely

connected. The share of each agent of production is equal to the contribution made by it in production. Each organiser of a business, big or small tries not only to make equal the marginal productivity of his outlay on each of the three factors of production but also to extend the application of his resources over land, labour and capital up to the point where marginal productivity of each factor equals the rate of remuneration payable to it. For so long as the remuneration of a factor is less than its marginal productivity further employment of a factor remains profitable. Again if application of resources on any factor has gone beyond the margin that is, if marginal productivity of a unit is less than the rate of remuneration payable to it resources will be withdrawn until the two become equal. For example, if wages are Rs 300 per year but output per labourer is only Rs. 250 it will mean loss of Rs 50 per labourer to the employer. Reduction of the labour force will then take place, this will increase marginal productivity until productivity reaches to Rs 300 per labourer. It is of course probable that under free competition retrenchment of labour will increase marginal productivity and lower the rate of wages simultaneously and the three processes will continue until wages and productivity are equalized.

This holds true not only of a single establishment but of all the productive units of all the industries in a country. *The important economic doctrine that emerges from this is that rates of rent wages and interest tend to be equal to the marginal productivity of land, labour and capital respectively.* According to Prof Ely. In order to achieve maximum profits each entrepreneur will endeavour, so far as is practicable, to apportion his use of land, labour and capital so that the value of the increment of product attributable to the marginal unit of each class of productive agents will about equal its expense. The rate of profit in an industry is itself governed by the marginal productivity of organizing ability and risk-bearing required in it. But here the principle of substitution works in an indirect manner. Society does here unconsciously what the enterpriser does deliberately in his factory or workshop. Society remunerates the services of organisers according to their marginal productivity through the market price it pays for the goods they help to produce.

Inventions and Improvements.

Inventions of machinery and improvements in the methods of production and transport, which are such a common feature of the present age are continually disturbing the proportions of the productive factors employed in business undertakings and the rates of their remuneration through their effects on marginal productivities. Thus invention of *labour saving* machines usually increases the demand for capital and reduces that for labour, the field of employment of the former increases and that of the latter decreases, the rate of interest tends to rise and that of wages to fall. In course of time, however, the lowering of the cost of production by improved machinery increases the demand for goods produced by it and to increase the demand for labour itself. In so far, however, as newly invented machines are *capital saving*, that is, they are simpler and less costly, they reduce the demand for capital and lower the rate of interest without any adverse effect on wages. Thus introduction of hydraulic cranes has by itself reduced the demand for, and wages of, dock workers; invention of calculating machines has tended to reduce the wages of clerks. But wages of the workers ought to be raised by such inventions as that of the small power looms and grinding mills worked with electrical energy in so far as they replace bigger factories employing more costly machinery and fewer labourers.

Improvements in transport such as railways and steamships have reduced the costs of transport and prices of agricultural products in older countries. Land has thus tended to go out of cultivation in such countries and rents there have fallen. On the whole and in the long run all inventions benefit labour by raising real wages if only because goods on which money wages are spent become cheaper. The demand for labour itself increases and wages rise as the demand for goods made cheaper by machinery increases.

Mobility of the Factors of Production

Factors of production tend to move to the place or occupation where their marginal productivity and therefore the rate of remuneration obtainable is the highest. Constant shifting thus tends to bring about equality in rents, wages, interest and profits. To the extent that mobility is obstructed by ignorance, prejudice, high cost of movement or legal bar, rates of remuneration tend to differ from place,

to place and from one occupation or industry to another. Mobility of specialized capital and specialized skill from one occupation to another is very difficult, if not impossible. Thus railway engines cannot be used to propel ships even though ships yield higher returns than railways nor can engineers become doctors because the latter's earnings are higher.

We may now note the effect of mobility on the factors which remain stationary in their own places or occupations. If labourers move from Agra to Ahmedabad because of higher wages in the latter town the wages of labourers who remain in Agra will tend to rise while rates of rent, interest and profit should fall in Agra. On the other hand, even though the workers reaching Ahmedabad will get slightly higher wages there than they got in Agra the wages of the labourers already employed in Ahmedabad will tend to fall while the rates of rent, interest and profit will tend to rise.

Personal Distribution and the Problem of Inequality

The share of the national dividend accruing to an individual or family as a unit of society is determined in a free economy by two things: (1) the quantity of the instruments of production viz. land and capital, special and privileges, if any, such as monopoly rights, possessed by the family and (2) the productive efficiency of its earning members. Thus inequality in incomes rests on inequality in wealth and privilege and productive capacity. Some socialist thinkers believe that inequality in ability or capacity is itself due to differences in wealth and income. Inequality in the latter necessarily means inequality of opportunity to acquire both capital and ability. A rich man's son has not only more capital at his disposal to give him a good start in life but also better opportunities of general education and technical training. He also enjoys the privilege of living in a better social environment which develops character, the poor man's son is denied all this. On this thesis these socialists advocate abolition of the

*Some engineers or teachers do begin to practise Homeopathic system of medicine in India after or even before retirement. But the phenomenon is largely due to their desire to serve, and the desire of their patients to be served by such unqualified people usually without payment. However appreciably higher rates of remuneration will attract new capital to ship building and younger people to the medical profession and in course of time rates tend to be equalized.

rights of private property and inheritance so as to equalize opportunities for all. Extremists among them, the communists, go so far as to suggest abolition of private enterprise also. It is, of course, possible for the state to own land and capital and to lease and lend them to private organisers. Rent and interest will then accrue to the community as a whole for equal distribution while profits and wages will go to organisers and labourers. But as profits per individual will naturally be larger than wages, they will militate against the ideal of the communists of more or less perfect equality, and ought, like rent and interest, to be appropriated to the community for equal distribution.

Liberal economists, however, advance certain arguments against these extreme measures of nationalization of land, capital and enterprise. (1) Even if all these were nationalized perfect equality of incomes will be impossible because of differences in natural or inborn talent. In spite of the fullest equalization of opportunity these differences will persist and so will differences in incomes unless distribution is made equal without regard to ability or productive capacity. (2) And if private property and inheritance are abolished and superior skill and industry are not specially rewarded incentive to work to the best of one's capacity will largely disappear. This will reduce the national dividend and not only the rich but the poor themselves will suffer. (3) Expectation of equal reward irrespective of quality and quantity of work put in may, on the other hand, make people entirely indolent and lazy. This will necessitate the use of the whip and will at any rate abolish that freedom of thought and action which is good in itself and necessary for the fullest expression of human personality. (4) Motive of private profit having gone incentive to saving, invention and improvement in methods of production will disappear. Loss of efficiency in state-managed concerns, such as has occurred in recently nationalized British industries of coal mining and civil aviation, is advanced as a sound argument against abolition of private enterprise. The socialistic writers, however, reply that they will change human character itself through social education so that people will begin to put in their best to promote not self but social interest. And saving will be undertaken by the state itself. (5) Nationalization with full compensation at market rate will yield no margin for distribution to the poorer

sections after payment of interest on loans raised to pay compensation. In fact, this might result in loss to the state to the extent that values of some of the private assets stand capitalized at rates lower than those paid on state loans in anticipation of future profits or rise in their values*. And in any case, inequality in incomes will continue so far as the amounts of compensation paid to the owners will be available to them in addition to incomes earned by them. Nationalization without any compensation or at arbitrarily low rates will not only be unjust but violently resented. (6) Further, apart from any immediate loss to the national dividend and economic welfare involved in the abolition of private property and enterprise there is the danger of the people losing altogether the sense of initiative and becoming habituated to working on orders from above. This is bound to call a halt to progress in industry and arts. (7) Natural resources like land and mines may not be improved and worked economically as they are when under private ownership.

A moderate course is therefore suggested and has been in operation in most of the civilized countries of the modern world. Some natural resources and certain industries have been nationalized, others are being taken over. Big estates or properties are being constantly reduced in size with each generation through progressively high rates of death duties and inheritance taxes. Steep progression in income and super taxes tending to reduce the net incomes of the rich to moderate proportions while those of the poor are being raised through a number of measures such as factory laws, regulation of wages and schemes of bonus distribution and profit sharing, compulsory social insurance, and provision of medical and health services and education to the poorer sections almost free of cost. Thus wealth, incomes and opportunities to earn incomes are in process of equalization and if the rate is slow it is being more than compensated by the absence of any perceptible set back to private incentive to work and to national dividend.

*For example if the total market value of the shares of a company yielding yearly a net profit of Rs 2,00,000 is Rs 1,00,00,000 and government borrows this sum at 3% there will occur a deficit of Rs. 1,00,00,000 per year to be made good from other revenues.

CHAPTER XXII

RENT

Economic rent has been defined by Marshall as "the income derived from the ownership of land and other free gifts of nature." In ordinary language the rent of a house and even the hire of a machine or other durable good are usually termed rents, but in the economic sense any income or part of income accruing to a person as wages interest or profit, is not rent. Thus the rent paid by a tenant for a house includes interest on capital invested in the building, some charge for depreciation and probably some reward to the owner for the work of collection and risk taken in investing his capital in the house. *Only that part of the monthly or yearly rent of a house is economic or pure rent, which is due to the site or plot of ground on which the house stands.* Sometimes houses are built on land taken on lease, the payment made to the owner of such land by the builder is called **ground rent**, which is true rent.

It may be noted that rent arises in respect of agricultural land, mines and other free gifts of nature which are scarce and owned by somebody. If and so long as they are plentiful for anybody to use as much of them as he likes there is no ownership and no income from them. When, however, they are appropriated and become scarce rent accrues to the owners whether they cultivate their own land or let it out to others, called tenants. In the former case it comes to the owners in the shape of surplus over cost of production, in the latter case it is paid to them in cash or kind. Usually the tenant agrees or enters into a contract to pay a certain amount of money or produce per year. Such rent is called **contract rent**, which is based on the estimates of the landlord and the tenant about what the true or economic rent is likely to be. The two may never be exactly equal, yet free competition among landlords and tenants, where it exists, does tend to make the two approximately equal.

Peculiarities of Land and Rent Theory

The factors that determine rent are the demand and supply of land. In a very real sense rent is the price of the use of land or other natural gifts for a given period of time and like prices of other goods and services it is determined by demand and supply of the services of land. But in applying the theory of value to the services of land we come across certain peculiarities based on the difference between the supplies of land and other goods. The latter have costs which determine their supply prices, even the agents of production other than land, capital, labour and organisation have their costs and supply prices as we shall see. If their demand and therefore prices fell below or rose above their costs their supplies will be reduced and increased so that a good measure of their values is provided by their costs.

But land itself has no costs of production, and its total supply is absolutely fixed for all practical purposes irrespective of price. This means that its supply will not be reduced even if its rent or price fell to zero, and it will not increase if rent rose to unprecedented heights. We in fact have no-rent land and we have land bearing very high rents. But we never come across no wages labourer or no price fountain pens. Again, wages of labour and prices of fountain pens cannot remain for long much higher than their respective costs. The result is that rent of land is governed entirely by the demand price for it in relation to the fixed supply. There is no supply price for land as a whole though of course for any particular use of it there is the amount it will fetch in an alternative use to which it can be put. But this latter amount is not the supply price in the sense of cost of production but only its demand price for the other use.

Another peculiarity of land is that it is very durable unlike fountain pens or machines. The productiveness of agricultural land and even forests and fisheries lasts over thousands of years if not more if properly exploited, natural water falls are also an inexhaustible source of power, only mines are exhaustible. One effect of this is that land may be allowed to be used by the owner even without rent but of course mines will not be allowed to be so used. And then land differs in productiveness from region to region and even from one plot to another due to differences in fertility and situation. By applying the same amount of labour and capital the produce or

profit yielded by one plot is larger than another which is less fertile or situated at a greater distance from the market. Or, what comes to the same thing, cost of producing and marketing a maund of wheat raised on one plot is higher than on another.

Lastly, land is subject to the law of diminishing returns in a manner peculiar to itself. Usually the most productive land is utilized first and as we apply additional doses of labour and capital to it or to less productive plots lying unused return per dose diminishes, or in other words, cost of production per maund increases. Thus the law applies both in *intensive* and *extensive* uses of land. In the case of a machine returns will no doubt diminish if we go on adding to the number of labourers working on it, but if the additional labourers were employed on new machines of exactly the same type, which can be multiplied, returns will not diminish and costs per unit of output will not increase.

Ricardian Theory of Rent

The modern theory, which explains how rent arises and what determines its amount is based on the Ricardian Theory of rent propounded by David Ricardo, an English economist. Ricardo defines rent as "that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil." His theory of rent is based on the peculiarities of land noted above and may be outlined as follows. According to him the most fertile land available in a country is cultivated first. So long as such land is available in plenty the price of its produce just equals the cost of production. But as population and its demand for agricultural produce increases the whole of the most fertile land is brought under cultivation. Then a stage is reached when additional produce can be raised by resort to more intensive cultivation of the best quality land already in use or to extensive cultivation of the less fertile land lying uncultivated. In either case the cost of production per unit of this additional produce is higher than before because of the operation of the law of diminishing returns or increasing cost. The price of the produce in the market must then rise and be equal to the cost of production of this additional or marginal supply, and the more fertile land must then begin to yield a surplus over cost of production because cost of production there

is lower. This surplus over cost is the economic rent of the better land which accrues to its owners. The inferior land yields no surplus and bears no rent, it is marginal or no rent land.

Criticism and Refinements

This theory of Ricardo has been subjected to certain criticisms and refinements by later economists. (1) Soil does possess *original* powers, but these are augmented by investment of human endeavour and capital in the shape of clearing, levelling and manuring. The increase in fertility brought about by these is not original but it is admitted that the return on it is governed by the same factors as rent yielded by original powers. Again powers of the soil are not entirely *indestructible* except to the extent that they are dependent on natural climate, rainfall and situation, fertility of the soil is subject to exhaustion but of course, constant replenishment enables it to retain its fertility over a very long period of time. Ricardo perhaps emphasized the indestructibility of the powers of the soil to explain the phenomenon of no-rent land. Modern writers have dropped the use of the words *original* and *indestructible*, yet in their theory also the artificially created power gets mixed up with original powers and partakes of the nature of the latter, indestructibility is also assumed though not naturally but through the use of the proper methods of fallowing, manuring and rotation and mixture of crops. (2) Ricardo based his rent theory only on differences in fertility, ignoring those based on situation relative to the market, probably because England is a small country where situation did not make much difference. Modern theory therefore speaks of differences in productiveness of different grades of land based on differences both in fertility and situation. However, this does not introduce any fundamental change in the theory. It only takes into account the fact of the difference in situation explaining rent along with that in fertility. (3) American economist, Carey, says it is not the most fertile but rather the lighter soils lying near the settlements of population that are cultivated first. Richer soils are heavier and require more labour and capital than is available in the early stages of settlement in a country. These are taken up later as population grows and capital becomes more abundant. This is probably truer of a new country like America where the richest soils have been found to lie much into the interior. However, the modern theory takes account

of this fact and says the most productive land relative to fertility and situation is cultivated first according to circumstances prevailing in a country in respect of labour, capital and agricultural methods known to the people 4) Ricardo applied the theory only to soil or agricultural land. It is equally applicable and is applied by modern writers to building sites, water falls and other natural resources. Thus it is that Marshall speaks of rent as 'income derived from the ownership of land and other free gifts of nature while Ricardo defines it as portion of the produce of the earth for the use of the soil'. When the theory is extended to urban shop rents we find that the surplus yielded by shops is not larger produce but larger profits. And of course additional profit which constitutes rent is due very largely to larger turnover and higher prices that prevail in better situated shops than in other less favourably situated ones. The concept of rent has also been applied to the exceptional rewards of human beings possessing natural talent, whose supplies are naturally limited like those of fertile land, and even to specialized machinery and human skill whose supplies remain fixed over relatively long periods and whose rewards are therefore determined temporarily at least in the same way as rent. The former is called *rent of ability*, the latter has been termed *quasi-rent*. These terms have been explained in detail later.

The modern Theory of Rent

Bearing in mind the peculiarities of land and the refinements of Ricardo's theory, factors determining rent may now be explained as follows —

Land and other natural gifts differ in their productiveness due to differences in fertility or situation or in both of them. Naturally the most productive land is taken up first. So long as the whole of the best land, supposed to possess equal advantages in respect of fertility and situation, is not exhausted cost of production of the produce per maund is equal. The price of produce then just covers this cost and land yields no surplus or rent, for if a price higher than this cost is charged other equally productive land is available for increasing output, and increase in output will lower the price to the actual cost. When, however, the whole of the best grade of land has been brought under the plough, additional output can only be raised at higher cost whether intensive cultivation of the best land already cultivated or extensive cultivation

of the less productive land lying idle is resorted to. And now the price of all the produce must rise equal to the higher cost incurred on the second grade land, the first grade land will then yield a surplus over cost of production, which is rent. As population increases and price rises further, additional produce is raised from still more inferior or third grade land and by intensive cultivation of the first and second grade land. The cost of production of this additional or marginal output rises further and equivalent rise in the price of produce becomes permanent. And then the second grade land also begins to yield a surplus, while the surplus or rent yielded by the first grade land increases still further. This process continues as more and more inferior land is brought under cultivation. It may be noted that price may rise above cost even while the best quality land is not exhausted. But such rise in that case will only be temporary, for additional output will be produced at the *same* cost as before, and the same price previously prevailing will be restored. It is only when the additional output has to be raised at a higher cost from inferior land that the rise in price becomes permanent or normal.

It may reasonably be assumed that according to the price prevailing at any time cultivation will be pushed in both the intensive and extensive directions to the point of the margin, that is, where price just covers the cost, *including reasonable profit to the farmer as an organiser*. Thus there will appear two kinds of margins of cultivation as soon as the best quality land is exhausted and second grade land is brought under cultivation. In the extensive direction there will be the *extensive margin* represented by the worst quality land in use, whose output just covers the cost of production. This is the *marginal* or *no rent land*. In the intensive direction there is the *intensive margin of cultivation* represented by the last or marginal dose applied to superior or super-marginal plots of land. Such a dose is termed *marginal* or *no rent dose*. Evidently then *the surplus or rent yielded by any plot of superior land equals the produce raised on it minus the produce that can be raised at the margin—extensive or intensive—by applying the same amount of labour and capital as on the superior plot in question, irrespective of area*.

The phrase 'irrespective of area' is significant. It is possible for a plot of one bigha of fertile land to yield a surplus of say, 5 mounds over cost of production and for a plot of five bighas of poor land to

Here rent is seen to be the quantity of agricultural produce. Its cash or money equivalent will be its market value. Naturally the more productive the plot is due to its greater fertility or better situation, as compared to the marginal plots of land, the higher will be the surplus yielded by it. This surplus or rent will accrue directly to the owner of the plot as a surplus over cost if he is a peasant proprietor cultivating his own land. If he lets it out to a tenant rent will come to him in the shape of contract rent that is, payment made by the tenant in cash or kind. Of course, the amount of such contract rent may not be exactly equal to the surplus or true economic rent, but under conditions of free competition the two will tend to be equal. Rent as a surplus over cost yielded by a plot of land may be interpreted in terms of its marginal productivity which governs the demand price for its periodical use. The marginal plots yield no net product, they yield just enough to compensate labour and capital at rates prevailing in occupations other than agriculture. Superior plots yield more than fair remuneration to labour and capital. The surplus represents then net marginal productivity and determines then demand price, that is the rent users are willing to offer. This demand price, based on marginal productivity finally settles rent in the absence of supply price of land.

Corollaries The following corollaries follow from this theory of rent. (1) When all the available land has been brought under cultivation in a country even the poorest land will begin to be intensively cultivated and to yield a surplus. Rent yielded by such land has been termed *scarcity rent*. All the superior plots will then yield this scarcity rent, plus a differential rent varying with their superiority over the poorest land now cultivated. In such a situation there will exist no extensive margin or no-rent land, but there will still be the intensive margin in the case of each grade of land. Rent will then be measured from the intensive margin that is, it will be equal to the quantity or value of the produce yielded by a plot

yield just enough to cover the cost of production. The five bigha plot is then marginal land yielding no rent while the smaller one of one bigha yields a rent of 5 maunds, or Rs 25 per bigha if the price is assumed to be Rs 5 per maund. This is true in practice, small plots near cities yield very high rents while large cultivated areas that are poor bring little or no rent.

minus the produce yielded at the intensive margin with the application of the same amount of labour and capital (2) If all land is equally productive, that is, if there are no differences in fertility and situation there will be no rent so long as any land remains uncultivated. But when the whole of it has been utilized and increase in demand raises the price above cost, all the land will begin to be intensively cultivated. An intensive margin represented by the marginal dose on each farm will appear and all land will begin to yield rent, which will however be equal. It will be of the nature of scarcity rent, there will be no differential rent because no differences in productiveness exist (3) Rent is directly dependent upon the operation of the law of diminishing returns. If returns were increasing or even constant, all the produce needed by a country could be raised on any one acre of land. The remaining land will then be not needed for cultivation and no rent can then arise. Cost of production will not at all rise with increase in output, it will actually fall or remain constant. Price of the produce will also be affected similarly and no surplus or rent will emerge. The price of produce rises with an increase of demand for it because cost of the additional supply rises due to the operation of the law of diminishing returns. Superior land then begins to yield rent because cost of production of the produce on such land is lower than price.

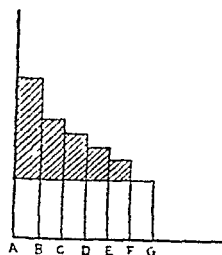
The theory may be explained and illustrated with the help of a table such as follows:—

Table illustrating the theory of rent

Doses of Labour and Capital applied	Yield in maunds of plots of land arranged in order of productiveness				
	A	B	C	D	E
1st	50	40	25	20	10
2nd	40	25	20	10	8
3rd	25	20	10	8	5
4th	20	10	8	5	2
5th	10	8	5	2	1

This table shows how returns diminish as we proceed in the extensive and intensive directions of cultivation of differing grades of land. Supposing a dose of labour costs as much as 25 maunds; then three doses will be applied to A, two to B and one to C. C will be the marginal or no-rent land. This is the extensive margin. The third dose on A and the second dose on B will be the marginal or no-rent doses, each representing the intensive margin of cultivation. The first two doses on A and the first dose on B will be super-marginal doses that will yield a surplus over cost or rent. The rent yielded by plot A will be equal to the total produced raised on it minus what can be raised by applying all the three doses at the margin, that is $\{(50+40+25)-(25 \times 3)\} = 40$ maunds. B will yield $40+25-25 \times 2 = 15$ maunds. Suppose that the price is Rs 4 per maund and each dose of labour and capital costs Rs 100. The margin of cultivation is still the same, that is, 3 doses will be applied to A, 2 to B and 1 to C. C will yield no surplus, the surplus on A and B will be 40 maunds and 15 maunds respectively while their money rents will be Rs 160 and Rs 60. If now the price of the produce rises to Rs 5 per maund the margin of cultivation will fall, allowing one dose to be applied to D and one additional dose to each of the plots A, B and C. D will now be the marginal land while the rents of A and B will be increased to 65 and 25 maunds, C will begin to yield a rent of 5 maunds. In terms of money the rents of A, B and C will be Rs 325, Rs 125 and Rs 25. A fall in price to Rs $2\frac{2}{3}$ per maund will raise the margin of cultivation and lower rents. C and D will go out of cultivation, only one dose will then be applied to B plot, which will become the marginal land. A's surplus or rent will be reduced to 10 maunds, or Rs 25 in terms of money.

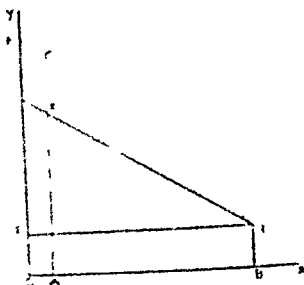
The emergence and amount of rent may also be explained with the help of this diagram



(1) Under extensive form of cultivation Let A, B, C, D, E, F be the plots of land arranged in order of their productiveness. By applying equal amount of labour and capital to each of them (represented by the blank portion of the rectangle in each case) they yield varying amounts of produce. F represents the marginal grade

or land whose produce just covers the cost. Other yield a surplus equal to the shaded area in each case. (2) *Under intensive cultivation* let A, B, C, D, E and F be the doses of labour and capital applied to one plot of land. They yield varying returns. F is the marginal dose that just covers its cost, all the rest yield a surplus equal to the shaded portions of the rectangles standing on them.

A graphical figure like this may be used to explain emergence of rent under actual conditions, where varying amounts of labour and capital are applied to different grades of land.



Here the various grades of land are represented along OX in a descending order of productiveness. The quantities of labour and capital applied to, and produce yielded by, them are represented along OY. The line LN represents varying amounts of labour and capital employed diminishing to the minimum BN as we reach the poorest and marginal grade located at point B. The line PN marks off the amount of marginal doses of labour and capital applied to various grades, including the poorest. Other doses represented by the distance between PN and LN are super-marginal, which yield a surplus measured by the distance between the lines LN and MN. For example, in the case of the grade of land located at A, AE is the marginal dose. EF denotes super-marginal doses which yield a surplus equal to FG. The marginal grade being at point B yields no surplus, only the minimum amount of labour and capital BN is applied, and this just covers the cost of production.

Differences in the Efficiency of the Farmers

In this example, as in the exposition of the theory of rent, it is assumed that all the farmers are of equal ability, that is the quantity of produce obtained by any of them on any particular grade of land with a given amount of labour and capital is the same, or in other words, that the cost of production per maund on any grade of land is the same irrespective of the individual farmer who cultivates it. In practice this is not so, produce per dose and therefore cost per maund will differ from farmer to farmer cultivating equally good or

bad land according to differences in their personal efficiency as workers and organisers. However, the theory of rent is not vitiated by this fact. We may assume for the theory that each farmer is of average efficiency, or that the more efficient farmers get a surplus income over their average or marginal competitors according to the degree of their superior efficiency. This surplus of super-marginal farmers is separate from the surplus yielded by super-marginal grades of land, which goes to the landlords. The former accrues to the tenants, in fact even the tenant of the marginal land may secure this in so far as he is more efficient than another competitor who also cultivates the same-marginal grade of land. For example, we see that the marginal farmer produces 25 maunds with one dose of labour and capital on the marginal plot C according to the preceding table when the money cost of one dose is Rs 100 and the price of the produce Rs 4 per maund. It is possible that a more efficient farmer may be able to produce 27 maunds with a dose or produce 25 maunds with four-fifths of a dose. In either case his cost will be less than Rs 4 per maund, which is the cost of the marginal or least efficient farmer and which governs the price in the market. But the extra income thus emerging will not go to the landlord but accrue to the more efficient farmer as the *rent of his ability*, explained later in this chapter. Similarly, if the farmer of marginal ability produces 65 maunds with two doses applied on plot B a more efficient one may produce 70 and pocket the extra 5 maunds or its money value as his own rent of ability.

The Rent of Natural Agents other than Agricultural Land.

The theory of rent very largely applies to other natural agents

Urban Site Rents In so far as rents of shops and houses are true economic rents based on their situations, and not interest on capital invested in the buildings or charge for their depreciation, they are governed like the rents of agricultural land. The only difference is that site rents are based on differences of situation while agricultural rents usually rest on differences in both fertility and situation. In fact we may conceive of a shop or house, situated in an out of the way place, paying only interest on capital invested in the building and a charge for depreciation and no ground or economic rent as such. The plot on which such a building stands is then marginal or no-rent land. The landlord is here content with interest on capital because

(2) **Fisheries** Fishing grounds which are at a great distance from the market and where fish are thinly spread may yield just enough to compensate labour and capital employed in fishing. These are marginal ones. Other fisheries which are richer yield a larger catch, those that lie nearer cost less in transporting the catch to the market. Both are super-marginal and yield a surplus over cost including interest, wages and profits. Such surplus is rent that will accrue to their owners. Here also rent emerges through the operation of the law of diminishing returns. Increased demand and rise in price of fish will compel resort to intensive catch

in rich fisheries or to extensive operations in more distant ones where costs are higher. Rise in price will cover these higher costs. Better-situated and richer fishing grounds will then yield a surplus because costs are lower.

(3) **Mines and natural forests** also yield a surplus or rent according as one mine or forest is richer or nearer than another mine or forest that is at the margin. But there is one important difference between agricultural land and fisheries on the one hand and mines and forests on the other. The latter are exhaustible and therefore no mine or forest owner will perhaps allow exploitation without some charge. This minimum charge may be levied in the shape of a royalty or so much per ton of mineral extracted and so much per 100 cubic feet of timber or wood removed. Payment of such a charge being compulsory, it will form an element of cost determining prices of the mineral and timber. It is therefore not economic rent. But costs per unit will be less in mines and forests which are richer or which are situated nearer the market than in those that are poorer and more distant ones. The prices will then be determined by the costs incurred in the latter, the former will yield surpluses, which are differential rents based on their superiority over the poorest in use. Here also margins of exploitation fall and rise and rents increase and decrease with rise and fall in the prices of produce. Thus during the last war poorer coal mines and the more inaccessible sources of timber and fuel began to be tapped in India and other countries as prices of coal and timber rose to make such tapping economically profitable.

Rent and Price.

From the theory of rent it follows that rent of land does not determine but, is itself determined by, price of the produce ruling in the market. Price of the produce, like the prices of other goods, tends to equal the cost of its production. And the cost of production that governs the price in this way is the cost at the margin, where there is no surplus or rent. Superior grades of land yield a surplus because the cost of producing a unit of produce on them is lower than that on the marginal land or dose, while the price of their produce is the same as that of the produce of the marginal land. Rent is thus clearly seen to be an element that does not enter into the cost of production which determines price.

Moreover, even if landlords as a class remitted rents, the price of the produce will not fall. The cost of production at the margin—intensive as well as extensive—will remain the same as before remission, for the marginal land yields no rent and will not benefit from such remission of rents. Supposing this cost at the margin, or marginal cost, which determines price is Rs 10 per maund before remission. It will remain Rs 10 after remission and the price must still be Rs 10 per maund for the cultivation of the marginal land to continue. The effect of the remission of rents by landlords will only be that the surplus yielded by super marginal grades of land will continue as before, but it will accrue to the tenants instead of going to their landlords.

But rent of land is certainly determined by the price of its produce. If this price rises due to an increase in demand and cost of production remains the same, the surplus over cost yielded by land will increase and it will accrue to peasant proprietors directly and to idle zemindars by a rise in contract rents through competition among tenants. In fact even the marginal land will begin to yield a surplus or rent in such a case. It will also become profitable to cultivate poorer soils where costs are higher. The margin of cultivation will thus fall and rents will rise. Again when price falls due to a decrease in the demand for produce and costs remain as before the surplus or rent yielded by all grades of land will go down. It is also certain that poorer grades of land where costs are higher than the new price, will go out of cultivation, while some of the less superior grades will become marginal land. In technical language we call this a rise in the margin of cultivation. The fall in rents with a fall in the price and rise in rents with a rise in the price of the produce are economic phenomena of frequent occurrence. Since the war started in 1939 prices of agricultural produce have risen many times while costs have not increased to the same extent, the result is that surplus yielded by land has increased greatly. If rents paid by tenants to the zemindars have not increased in India it is because zemindars are as a rule not allowed to eject tenants or enhance rents.

This relation between rent and price applies equally well to site rents, or rents of houses and shops, to the extent that they are economic rents. High rents are paid for shops in good localities because it is possible to earn higher profits there than in shops situated in out of the

way places or bylanes of a town by applying the same amount of labour and capital. Suppose two brothers start a general merchants shop in Naubasta, an outlying Mohalla of Agra, investing Rs 1000 in it and make a net profit of Rs 500 a year. Suppose again that they expect to make a net profit of Rs 1000 a year in a Kinar Bazar shop with the same amount of capital. Then they will naturally be willing to offer for the Kinar Bazar shop an annual rent which is greater by Rs 500 than the annual rent paid for the shop in Naubasta. They will not be worse off, and may actually undertake the change in the hope of a larger increase in profits in the future in the better locality. Supposing the shop rent in Naubasta was Rs 100 per year and it consisted wholly of interest on the capital invested in the building and a charge for its depreciation. Then the whole of the excess of Rs 400 yielded by the shop in Kinar Bazar is economic rent arising from situation.

Now the higher rent of the Kinar Bazar shop is explained by higher profit it yields. The higher profit itself may be due *either* (a) to the higher prices that can be charged from the more fashionable or wealthier customers that do their shopping there or (b) to the higher turnover or sales that are possible there than in Naubasta, or it may be due to both of these factors. In any case, higher prices, if charged in Kinar Bazar, are not due to high rents, it is the opportunity of charging higher prices that induces the tenants to pay higher rents. The same reasoning applies to higher rents of houses in more convenient or fashionable localities. They are offered because of greater convenience or satisfaction of variety, both of which have their economic or money value.

Ricardo's statement that "corn is not high because a rent is paid, but a rent is paid because corn is high" is largely true. The same idea is expressed by saying "rent is not a price-determining but a price-determined quantity", or that "rent is the result and not cause of the price. One reason which confirms this conclusion is the fact that interest on capital, wages to labour and fair profit or reward to the entrepreneur must be paid to call forth their supplies, rent is not at all necessary for the supply of land to exist. The former three items are therefore essential elements in the cost that price must cover, rent is not such an element. It arises because price obtained is higher than cost.

Some apparent Exceptions

In certain cases rent does seem to affect price, but a little reflection shows that this is only apparent and not real. (1) It is said that rent is paid by the tenant out of the price realized for the produce and is therefore included in the cost or expenses incurred by him. This is no doubt true but rent, which he does not raise the market price of the produce. It is because the price is high due to market demand and the high cost at the margin that he can and has to pay the rent. (2) Some rent is usually levied in India, and perhaps in other countries, for each bigha of the poorest land leased out to tenants. There is no no-rent land because of this minimum rent compulsorily levied by the state or landlord. Now so far as such rent is levied by the state on the poorest land, as in the United Provinces, it is a tax on the land, and as a tax it will raise price of the produce to the extent it is added to the consumers. Where the charge is not compulsory, the rent paid for the poorest land is only apparent and not real. When a number of plots of varying fertility are leased out at a uniform rate of rent per bigha may be agreed upon. But the rent paid is due to the surplus yielded by the more fertile acres, the poorest acres at the margin are really no-rent acres and can be taken at any rent if leased out separately. As a matter of fact, it is not uncommon to find cases where landlords actually leave for a number of years poor infertile tracts lying idle either without rent or at a nominal rent in the hope of their becoming rent paying in the future.

(3) Where the landlord is a monopolist and puts a compulsory levy of rent on the poorest land, the charge is in the nature of monopoly price for the use of land, it is not economic rent. But the additional rents yielded by more and better situated grades of land are surpluses over costs of production, which here include the minimum levy. Such *differentiated* rents are economic rents, they do not determine, but are determined by, price. (4) Where a plot of land bears a certain annual return *one use* say, for raising of market crops like vegetables near a city it will have to pay that rent if transferred to another use say, for a dairy, where it may be at the margin and yield no surplus over cost. Then such rent will raise the prices, it is said, of the dairy produce—milk and butter. Put the

argument is fallacious. The mere fact that the proprietor of the dairy has agreed to pay rent for such a plot shows that the prices of dairy products are high enough to make the payment of rent possible. Surely, the additional supply of the produce from his new dairy will lower rather than raise the price of such produce, other conditions remaining the same.

Wider Application of the Theory of Rent.

As has been indicated before, the theory of rent may be extended to explain earnings of any factor, *whose supply happens to be fixed*. Because whenever the supply of a factor becomes fixed an increase in demand will raise remuneration above its *normal reward*, a reduction in demand will lower the reward below normal. This is also true of goods and services. The prices of goods with fixed supply rise and fall with increase and decrease in demand. But as the benefit of a rise and loss of a fall in their prices accrue directly to their owners as an increase or diminution in the latter's earnings, the theory of rent is applied to the prices or rewards of the factors of production rather than to the prices of goods they produce.

Fixity of supply may be *permanent* or only *temporary*. Where it is permanent, as in the case of land, rent theory has enduring application. Where supply is only temporarily fixed, as in the case of specialized forms of capital equipment and human skill, earnings are determined according to rent theory for the period fixity of supply lasts. Earnings of factors whose supply is permanently fixed are rent proper, rewards of factors whose supply is only temporarily fixed have been termed *quasi-rents* by Dr. Marshall. In rent proper we find two types: (1) Rent of land, which has already been dealt with, (2) Rent of ability, which denotes rewards of inborn talent which is also limited by nature. Quasi-rent accrues to specialized forms of capital and labour.

Rent of Ability Like surface of land, mines and other natural agents, the supply of natural or inborn talent is limited. It is not possible to increase or reduce the amount of land surface, nor is it yet possible for human effort to increase and reduce natural abilities of human beings. Geniuses, it is said, are born not made. To the extent that the supply of ability can be controlled by application of

eugenics and provision of education and technical training human skill partakes of the nature of capital and not land. Then like land, natural ability or talent is found in a very wide variety, differing both in degree and kind. Some land in a village is most suited for wheat, some may be fit for paddy only. Even the acres fit for growth of paddy differ in their fertility. Similarly some individuals are good at mental work, others at jobs requiring manual dexterity. Some doctors are good physicians, others are good surgeons. Among surgeons there are innumerable gradations as regards skill. Now the worst surgeon, who seldom succeeds in an operation perhaps makes a living, so does the least efficient shopkeeper and manual worker. Others of their class excel and earn larger rewards, whether they work independently or for wages under an employer who is a good judge of ability. Now the exception to high rewards of the more skilled surgeons, business managers and skilled labourers are surpluses and real rents. Like the rent of land they are measured from the rewards of the marginal or least efficient units of their kind. There is, however, one difference. The marginal land yields no rent, but no human being can work it for remuneration though of course there are instances where flowers of human talent go wholly unused. However, rent of ability persists like the rent of land because exceptionally fertile land and brains are both limited by nature.

There is another likeness between the two. Rent of land as we have seen, does not determine price of its produce, but is determined by such price. The same is true of rent of ability. The least efficient businessman or surgeon, whose service is required by society according to the volume of its demand determines the market value of such service. If a shoemaker takes two days to prepare a pair of shoes, because his hand and brain are both slow, and must be paid Rs 2 a day, the cost of shoes of the type he makes contains Rs 4 as wages plus the cost of materials and other necessary expenses. And the price in the market must be such as to cover this cost or else he will give up shoe making. Then those whose more alert brains and hands enable them to complete the whole process in one day will earn Rs 4 a day. The extra earnings of Rs 2 per day are rent of ability. This sum of Rs 2 does not determine the price of shoes in the market. It comes to them because their real costs in terms of labour days are lower than those of the marginal shoe-makers. So is the case

with extra earnings of more talented factory managers, then higher profits do not raise the price of their products but accrue to them because of the higher costs of their marginal competitors, which determine the price of such products

Quasi-rents Consider now the earnings of specialized capital, represented, for example, by cotton, woollen and other mills, and specialized skill like that of glass blowers and mechanical engineers—skill that can be required by any number of persons with proper training and practical experience. Both of these resemble earnings of land and natural ability in certain respects and differ in others. They are like to the extent that specialized capital and skill take relatively long time to increase and decrease in response to changes in the rate of their earnings, consequent on changes in the demands for them. During short periods then supplies become more or less inelastic like the supplies of land and other natural agents. If demand for and the prices of their products increase rates of their remuneration, in the shape of interest, wages and salaries, rise, with a fall in demand and prices of such products their earnings per unit come down. And these changes in earnings have little effect on their supplies during short periods, as is the case with land supply. **Thus interest and wages, instead of determining prices of products over these short periods, are determined by the latter, as is the case with rent.** During a period of low prices we in fact meet cases of **marginal capital** such as that invested in older machinery, whose employment yields no return to capital as such. Such machinery may be worked because the owners are able to get employment and some reward for their organizing ability, in addition to wages and other costs incurred in production. And of course there is sub-marginal capital, in the form of factories, that are uneconomical to work and remain closed until prices of their products rise and the margin of industrial production falls low enough to bring them into use once again. More up-to-date machinery will yield higher profits, which is in the nature of a surplus over costs incurred at the point of marginal employment of similar capital goods. We seldom meet with engineers or foremen who are **marginal** in the sense of working without any wage or salary. But **sub-marginal** skilled workers become quite common in periods of trade depression or low prices, the unemployed among them do stand, like the inferior soils, below the margin of employment. Again, it may be possible to find in such periods of unemployment, at least some cases of even

experienced technicians working without wages as apprentices in the hope of being put on salaried basis later. They then represent truly marginal workers during the period of wageless apprenticeship.

We find ships actually yielding very high profits during a war because their supplies cannot be increased fully to meet the increased demand for shipping space. In a prolonged period of trade depression such as that experienced from 1920 onwards yields of some kinds of ships may, on the other hand fall below zero. Then supplies are not reduced because they take long to wear out and owners may keep them in service in the hope of recouping the losses with the return of better times. Similar is the case with wages and salaries of highly skilled technicians, who take a long time to acquire the necessary training. Their number cannot be increased for years to meet fully the increased demand for their services and in response to high rates of remuneration. Nor can their supplies be reduced soon after demand falls off and rates of wages and salaries go down. They have to content themselves with relatively very low wages. Of course, few youngmen will then take up the training until supply is reduced sufficiently to make the rates remunerative once again. So far rent proper and earnings of capital and labour are seen to be largely similar.

But here the resemblance between land on the one hand, and specialized capital and human labour on the other ends. So does the likeness between rent and quasi-rent, or earnings of specialized capital and *acquired* skill. Firstly, the fixity of supply of land and natural talent is enduring and not capable of variation by human endeavour irrespective of changes in the rates of their rewards, that of machines and technical skill is after all temporary, their supply does increase and decrease with rise and fall in their rates of remuneration in course of time. Secondly, capital and skill both have a normal rate of reward, determined by costs of saving and risking capital and acquiring the required standard of technical ability. *No-rent* machinery cannot last long much less no wage technician. These two factors must earn the normal rates of reward if their supplies are to continue. Thus, over longer periods these rates must stand at a certain average level and the prices of their products must be such as to yield these rates. From the longer period point of view they

thus determine, and are not determined by, prices. Being largely of the nature of rents from the point of view of short periods, but not so if a longer view is taken, they have been termed quasi-rents*.

Factors Affecting Rents

Rents are raised and lowered by certain economic factors by their influence over prices of agricultural produce. It is evident that any cause that increases the demand for produce and raises its price will raise rents, and vice versa, also any cause that increases productivity of a particular tract or type of soils, will raise rents in such tracts or of such soils by increasing their surpluses over costs of production. The more important of these factors are —

(1) **Changes in population** An increase in population other things being equal, increases the demand for, and raises the price of, the produce and therefore raises rents. A decrease in population, if it took place, say, through war, disease or emigration, will of course lower prices of agricultural commodities and minerals and rents of land and mines. Population of the world has increased rapidly in recent times, and rents have tended to rise continuously.

(2) **Improvements in the methods of cultivation** Introduction of better seed, manure and implements and cheaper sources of irrigation, like canals and tube-wells, increases the yield per acre. In a very real sense it checks the tendency to diminishing returns obtained from nature's gifts and to increasing costs of their production. Naturally such improvements in the arts of agriculture, mining and forestry keep down prices and rents. Margin of cultivation is prevented from falling, if it is not actually raised by them, and to that extent surpluses yielded by superior grades of land are kept down. Similar effect is produced on surpluses or rents of more productive soils and mines in so far as improved methods benefit poorer types of natural resources more than the richer ones, for they reduce the differences in their yields. Thus price of sugar and rent of land suited to the growth of sugarcane in particular and of other varieties in general, might have risen much higher in India had not the relatively heavy-yielding varieties

* Rewards of factors other than land thus putake of the nature of rent and prove Marshall's statement "even the rent of land is seen not as a thing by itself, but as the leading species of a large genus."

of combaratore cines been introduced. The cost of older varieties per maund was higher, so would have been the price of sugar manufactured from them. Extension of sugarcane cultivation to poorer and poorer soils would have accentuated the situation. Rent of land devoted to other crops would also have risen.

(3) **Improvements in the Methods of Transport.** These have a varied effect on rents. They lower rents as a whole, in so far as they bring produce of totally inaccessible and unexploited areas to the inhabited tracts, and lower its price throughout the world. Rents fall in the older countries as prices are brought down by imports from new countries where costs are lower. The costs of transport are of course themselves reduced much by the new types of transport. But rents in new countries and backward and inaccessible parts of old countries are raised in so far as lower costs of transport extend the markets for their produce and raise its price. Thus the introduction of the Railways and the steamship has lowered rents in Europe and raised them in new countries like Australia, Canada and the United States of America, and even in an old country like India, whose produce finds a good market because of these improvements. It is a matter of common observation that prices of agricultural and dairy products and rents rise in rural areas connected to a city by a new railway line or metalled road, while the rents of land used for market gardening and raising of milk and other perishable goods near the city fall because similar goods from the newly opened area flood the city market and lower their own prices.

(4) **Social progress.** As society progresses in industrialisation and wealth, and as the standard of living of the people rises, wants multiply and the means to satisfy them increased. Increased demand for products of the earth results in higher prices of raw produce and rising rents accruing to landowners except to the extent that they are kept down by improvements in the arts of extraction and means of transport. The effect of social changes as a whole and of continuous increase in population, is to raise prices and rents.

Unearned Increment

This continuous increase in rents resulting from social changes has been termed *unearned increment*. It is unearned in the sense

that it occurs without any effort on the part of landlords. If the yield of land is increased or costs of production are reduced by the investment of capital in irrigation and other works, or by the introduction of better methods of cultivation by the landlord, the resulting surplus is *earned* by him. It represents income coming to him as due yield of capital invested by him and reward of superior organizing ability. Such surplus is evidently not rent. But that arising from compulsory resort to poorer soils as population increases, and from improvement of transport and introduction of canals by the state, is rent that is *unearned*.

Naturally then there have appeared schools of thought, typified by socialism, which advocate appropriation of this increment by the state for the benefit of the people in general. There is some real justification for the state taking over such increment, the landlord has no ground for complaint in so far as it is not due to his efforts. Nor will such appropriation or confiscation discourage private efforts because it does not depend upon such efforts. It will continue to grow automatically.

However, there are certain difficulties in the way. (1) It is difficult to separate unearned from earned increment, and appropriation may discourage efforts that are necessary for increase in earned increment in the interest both of the landlord and society. (2) Secondly, as land is constantly changing hands, and as expectation of unearned increment is very general, the purchaser of land often pays to the seller a price that is based not on its existing yield but also on the increase anticipated in the future. Evidently then it will be unjust to the purchaser to deprive him of an increment in rent for which he has paid.

Where, however, the unearned increment is obvious, as in the case of values of urban houses and shops consequent on provision of better roads, street lighting and other amenities by municipal bodies, or improvement trusts, it is appropriated wholly or partly in the shape of increase in house tax and water rate or special monetary assessments. Even in the case of agricultural and mine rents appropriation of increments will become less unjustifiable if future policy of the state is once declared. This will make the future purcha-

ers of land. Of this, and price of land will then be based only on existing yield. In course of time state revenue are bound to benefit greatly from this source. It will mean no destruction not of land itself but of the earned increments.

Capitalization of Rents We must distinguish between rent and price of land. Rent is its net annual yield, it is the price paid for its use for a year. The price of land is its capital value which is, however, calculated based on the annual yield or rent. Price of any plot of land is its capital value of its net annual yield at the rate of interest which is yielded by capital invested in other funds equally safe or risk free. If investment in Government bonds and in land are supposed to be equally safe and if the former yields 3% per annum, the capital value of a plot which yields Rs. 300 per year will be Rs. 1000 (Rs. 300 bond and this plot prospective of area will have equal value). Another plot yielding Rs. 300 will have value of Rs. 1000, in so on. Now if the rate of interest yielded by bonds rises to 6%, the price of land will be halved, and if such a rate falls to 1½%, the capital values of land will be doubled. This applies in practice to the extent that rentals of urban properties have increased during, and since the end of the War in spite of controls, then capital values have also risen. As annual rents fall later, prices of urban properties will also go down. This is what happened during and after World War I. The situation in regard to Zemindari or agricultural land and mines is similar. Prices of Zemindari land in the U P have not risen during the War because rents have remained stationary due to tenancy laws. Now these prices have, in fact, gone down greatly due to the declared policy of the government to nationalize land. Naturally the price offered for an estate will now tend to equal the compensation payable for it by the government according to the approved scales. In so far as relatively higher rates of compensation are payable to smaller estates with lower annual yields, the capital values of these, in relation to rents, will be higher than in the case of bigger estates.

Does the Theory of Rent apply in practice ?

How are the actual rents yielded by various grades of land in a country equal to the surplus yielded by them over the marginal land, and does marginal land exist as implied in the theory of rent?

To take the latter part of the question first, it may be noted that not only marginal or no-rent land but even sub-marginal land exists in India, as evidenced by some of the less fertile and inaccessible cultivable areas lying idle. These are now being opened up by the state and private agencies under the grow more food campaign, then opening up is being made economically possible because of scarcity of produce and unprecedentedly high prices that are prevailing. This confirms how rise in price lowers the margin of cultivation to less, productive soils. It has already been indicated how the existence of no-rent land may be obscured by fixation of a lump sum as rent for a farm containing a mixture of good and bad land. Even when all land in an old country with dense population, such as England or China, has been brought under cultivation, and each acre bears some rent according to the prevailing price for produce, we do have the *intensive margin* from which rent as a surplus ought to be estimated. For such countries no-rent land may exist in a foreign country, which ought to be included in the extensive market for agricultural produce.

Turning now to the first part of the question posed in the previous paragraph there can be little doubt that the whole of the surplus or economic rent yielded by super-marginal grades of land accrues to the owners who are peasant proprietors, that is, who cultivate their land by themselves. Of course, part of the surplus over cost may be due to their superior ability and comes to them as rent, not of land but, of ability.

The situation becomes a little complicated where land is let out to tenants on contract rents. These equal economic rents only so far as conditions of free competition, assumed in rent and other economic theories, are fulfilled. To the extent that competing landowners and tenants in a region have full knowledge of the surpluses yielded by various grades of land at prevailing prices and costs of cultivation, and are able and willing to take the fullest advantage of such knowledge and prevailing conditions, economic rents will tend to approximate closely to the actual surpluses. But if knowledge of the extent of surplus is lacking in either of the two parties, and if competition is obstructed by custom, sentiment or legal bars, contract rents may differ from true economic rents. In some, perhaps many,

either a landlord may be willing to receive a lower than true rent because of customary low rates prevailing in the locality, or because he wants to be generous towards his tenants. On the other hand tenants may be willing to pay higher than true rents because they are attached to their ancestral farms or to the locality in which such farms are situated or because they have no other alternative employment yielding more than what they obtain on their farms as remuneration of their labour and capital resources. To the extent that contract rents exceed the true surplus, they fall on the incomes of the tenants and lower their standards of living. This is called *rack-renting*. However, there is evidence of the forces of ignorance and strength of custom and sentiment progressively disappearing and the force of competition increasingly growing among both landlords and tenants. But as we shall see presently, law does interfere in the fixation of rents in India and elsewhere, usually in favour of the tenants.

Agricultural Rents in India

In the United Provinces and most of the other Provinces and States of India there exist tenancy laws, which make it the responsibility of the state to fix rents periodically for periods of 30 to 40 years. This periodical fixation of rents is termed a rent and revenue *settlement*. Such rents then tend to prevail, irrespective of changes in surpluses or true rents consequent on fluctuations in prices of the produce between the date of one settlement and the next. Zemindars are not allowed to eject tenants or to enhance rents except for very special reasons and that only by application to, and decision of, a Revenue Court. Tenants are allowed to relinquish tenancy and also to apply for reduction of rent on certain specified grounds.

The principles on which rents are fixed at the time of each periodical settlement are (1) Land in each circle of a district is classified into various grades according to its fertility, based on texture and composition, facilities of irrigation available and situation. Different rates of rent per bigha are then fixed for each grade. Some rent is fixed for even the poorest grade of cultivable land and of course the rates for richer grades are higher. (2) In fixing these rents surplus over cost or true rent is seldom adopted as a basis, if only because

it is so difficult to estimate. Usually a percentage, say, one-fifth of the gross produce is fixed as rent for each grade. The money value of the one-fifth produce at prevailing prices may then be fixed as the money rent payable by the tenant. Naturally these money rents per bigha will vary according to productivity of different grades. They may be anything from annas eight to Rs 4 or more per lachcha bigha or Rs 2 to Rs 20 per acre.

Naturally then the rents so fixed by the state may be greatly different from true rents conceived as surplus over costs of production. They are usually lower but may accidentally prove to be a little higher for some grades of land in certain circles. As prices of the produce as a rule show a rising tendency these fixed rents tend to become still lower than the true rents, and the margin then accrues to the tenants instead of going to the land owners. As prices of the produce have risen by several hundred per cent since the last War started in 1939, and as costs of cultivation have not risen at all proportionately, it is safe to conclude that the whole of the *increased* surplus or true rent is going to the tenants.

A measure of true surpluses or rents is furnished by *shikmi* rents, that is, rents paid by sub-tenants to tenants for land let out by the latter to the former. The *shikmi* or sub-tenants enjoy no rights. They are liable to be ejected at the will of the tenant, who can also raise rents as price of the produce and surplus or true rent rises. These rents have gone up in some cases to Rs 20 or more per lachcha bigha, or Rs 100 per acre while the tenant may be giving only Rs 2 per bigha to his zemindar. Of course, costs (on account of seed, wages manure and interest on larger sums of capital required for bullocks and implements and for financing current operations) have risen greatly and the surplus must be lower than Rs 18 per bigha, indicated by the example taken. Yet it cannot be denied that this surplus must be substantial and at any rate much more in terms of money than what it was before the war.

Similar is the case with tenants of *Sir land of the zemindar*. Sir is that part of the cultivated area of a village over which the owner of the village holds Sir rights. *Sir area* of the village differs from the non Sir area in this that the tenants of Sir require no rights and remain tenants-at-will. Sir rights were generally extended to the zemindars over the

area they cultivated directly for a number of years as then khudkashit. Sir land thus remains available for direct cultivation by the zemindar even when it is let out from time to time, or even continuously for long periods by the zemindar. Tenants of Sir area are thus tenants at will and are as a rule paying rates equivalent to the shikmi rents. In this case the increased surplus is accruing directly to the land owners. Recently there has been much agitation about extending by legislation fixity of tenure and rates of rent to tenants of Sir and even to sub tenants. Already the area of land held as Sir by a zemindar has been restricted to 50 acres, and tenants of the Sir area in excess of 50 acres have been given tanancy rights. Tenants' right to sublet has been limited to five years, and there is likelihood of the law extending certain rights to sub-tenants in the future. The surpluses accruing to the tenants are really rents which go to them as sub proprietors standing between zemindars and sub-tenants.

In the case of land that is sublet there are four interests created. This is called sub infeudation in technical language. One of these is the state, which as overlord takes as land revenue a part of the surplus or rents collected by the zemindars from their tenants. The zemindar as proprietor gets a part of the rents as his *munafx* or profit. Then comes the tenant, whose profit equals the shikmi rent received minus the fixed rent paid to the zemindar. The sub tenant himself retains no surplus. When zemindari is abolished, the present share of the zemindar will go to the state. But of course the state will have to forego a part of it as interest on the money borrowed to pay compensation to the landowners.

During the period of the depression of the thirties the real burden of rents had risen considerably as prices of the produce fell to about one-third from the 1929 level. The rates of rent being fixed by the state, did not fall during the depression as they have not risen during the present price boom. A little reduction of about 10 to 15% in rent, was made by the government in 1932 against a fall of about 66% in prices, no increase in rents has, however, been made due to more than 500% rise in present agricultural prices. The distress caused to the tenantry by the stationary rents during the depression has thus been compensated many times by the high prices now prevailing. One good effect, as well as evidence of improvement in the position of the tenant farmer during and since the War has, been great reduction

in rural indebtedness. During the depression indebtedness had grown enormously and most of the Provincial Governments had to enact special laws reducing the burden of agricultural debts.

Rack-renting.

Apart from the present prosperity of the tenant and special distress during the depression, which are so universally admitted, it has been generally held that rents in India in normal times are too high in relation to the ryots' incomes, and that the standard of living is miserably low. Rents fixed by the state, high as they are, are said to be enhanced by the resident zamindar or by the agents of the *absentee* landlord by various kinds of illegal exactions, such as *miriana*, grazing fee and *begar* or forced labour. All the resources of the zamindar are said to be used in fair and foul manner to get tenants ejected, so as to secure higher rents along with premium or *miriana* from the new tenants admitted in the place of the old. Even the tenants are found willing to pay these extra levies by reducing their own standard of living because of the pressure of increasing population and the absence of alternative employment. Pressure of population on land has no doubt increased in India, and there is great need for industrialization to absorb the surplus of the partly employed rural population.

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CHAPTER XXIII

INTEREST AND PROFITS

A INTEREST

Interest is the price of the use of capital for a given period of time, it accrues to the owner of capital as a reward for saving and waiting. If he lends his capital interest comes to him *explicitly* in the shape of a periodic payment made by the borrower. But if the owner, or the capitalist as he is called, uses it in his own business, he gets interest *implicitly* in the shape of an extra income, which he would be compelled to pay to others as interest if he used borrowed capital. This accrual of interest to the owner, whether he uses or lends his capital, is confirmed by the practice among accountants of charging interest on partners' capitals before arriving at net profit of the firm. The term *profit* is some times used to denote the whole of the annual return on the capital invested in a business. But in the economic sense profit is something quite distinct from interest, even though the two are in many, perhaps most, cases mixed up elements in a person's income. For a clearer grasp of the distinction between the two the total annual return on capital may be analysed.

Return on Capital A person, who employs capital in his own business or lends it to others for a certain period, say, a year, has to do three things—*work, wait* and *bear risk*. Work results in wealth, which when lent or used involves waiting for a year. Both lending and use involve some risk, lender may default and use may prove unprofitable. The owner of capital must then get a total return during the year, which compensates him for all the three distinctive services. If the capital is used or let out on hire in kind, say, in the form of a machine worth Rs 100, he must get back (1) the machine in tact, with full value as the reward for working, (2) some reward for waiting and (3) something for undergoing the risk of the machine itself being destroyed by fire or the hiree running away with it. The first of these rewards is depreciation, the second is interest, the third is profit, which includes some charge for running

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the business or its organisation. Interest is thus the reward of pure waiting, profit that of managing and risk-bearing. If the machine is sold for Rs. 100 and the sum is lent, the total return on capital still includes the three elements, but the process is modified. The lender receives back after a year full Rs. 100, the sum has not undergone any depreciation and no charge for it is therefore necessary*. But the borrower, who used the Rs. 100 in purchasing a machine and used it for a year, must be compensated for depreciation in the value of the machine. His net receipts must on an average bring him wages for work, profit as organiser and risk-bearer, interest that has to be paid to the lender, and of course any rent that he pays for the shop. The lender, receives both interest in addition to the principal sum of Rs. 100 lent a year before. And this interest will include, besides the reward for pure waiting or net interest, something for the risk involved in lending. This excess would have remained with the user of the capital as personal income if he had his own money and borne the whole of the risk. Use of borrowed capital means that the risks of loss are shared between the borrower and the lender, and naturally the profit yielded by the capital employed is reward for these risks, must be shared between the two.

Gross and net interest. Thus we see that even the sum, received by a lender from the borrower is *interest*, is not pure or net interest but includes a charge for risk, which is really profit in the economic sense. In fact, includes other elements. Each loan carries besides (1) *risk of loss*, (2) *some inconvenience* to the lender in not being able to get back the money even if it is badly wanted for his own use during the currency of the loan. This inconvenience looks very much the same thing as waiting, but in reality it is seen to be more than this, it means waiting for a period longer than the lender can afford, and sometimes it may mean waiting for more than the currency of the loan if the borrower is unable to repay on due date. Such inconvenience is not risk-bearing which denotes final default. (3, There is a third element

*Of course when prices rise between the date of lending and repayment, the sum of money received by the lender represents less value in terms of goods and service. This is real depreciation. No legal compensation for this loss is however admissible in so far as payment is agreed to be made in money by both the parties.

involved in a loan transaction and that *cost and trouble* means an collection and keeping of accounts. Costs on the account are actually quite large in the case of banks and bigger money lenders. Thus the total sum received as interest is *gross interest*, and includes, besides net interest, the reward of pure varying charges for risk, inconveniences and cost involved in a loan. And as these differ from one loan to another according to the credit of the borrower and the amount and the period of the loan, the rates of gross interest charged themselves vary widely. The rate of pure interest is roughly represented by the rate of interest on Post Office Savings Bank deposits, which are almost absolutely safe and do not involve any expenses in making and withdrawing them, and which can be withdrawn at any time according to need, though of course not more than once a week. Other rates, including even those received on government bonds, are gross in so far as they carry some inconvenience and risk and even costs in the shape of commission on purchasing, selling and interest collection charged by bankers from the purchasers of such bonds.

Justification of Interest

Charging of interest on money lent has been condemned as unjust by several religious codes on moral or ethical grounds. Muslim law prohibits it totally as a sin, Christianity has condemned it as *usury*, Hinduism also looks upon interest as a somewhat tainted source of income. The reason lies in the consciousness that the lender exploits the need of the borrower, a starving man will agree to pay any rate of interest howsoever high and will even submit to unfair practices such as manipulation of the accounts by the lender in his own favour. Some of the economic writers of old also disfavoured interest by saying "money does not begot money", forgetting that money as capital does increase the borrower's money income. Socialists and communists of today denounce interest on the ground that capital is accumulated at the cost of labourers and the income from interest perpetuates an idle parasitic class, which is unproductive.

But if we look at interest from the economic point of view in a society with private property and freedom of enterprise, we find a strong justification for it. Apart from the dishonest practices of the lender, which none can approve and which are everywhere legally punishable, we find that borrowed capital increases the income of

the borrower for productive purposes, interest that he pays to the lender is usually only a part of this additional income. Even the borrower for consumption benefits from the loan because he is able to satisfy his urgent needs of the present against promise to repay out of future income. He is able to consume what he has not yet earned but only hopes to earn in the future. The lender, on his part, postpones enjoyment of his present income and puts it at the disposal of the borrower. In so far as there prevails time preference that is, present enjoyment is valued more highly than equal enjoyment in the future, the borrower ought not to grudge, and the lender ought to receive, the premium called interest. And, as we shall see presently, without the existence of interest saving will be reduced, and society would be the poorer by a reduction in its capital equipment.

Determination of the Rate of Interest

Interest, being the price of the use of capital for a stated period, is determined by the interaction of the forces of demand and supply of the periodical use of capital. As a rule, capital is borrowed and made repayable in terms of money and interest is expressed as a percentage of the principal. Even when capital is borrowed in kind, interest may be expressed as a percentage. The Department of Agriculture of the United Provinces Government actually lends to the farmers' wheat and other seed at the time of sowing, and charges 25% on the quantity lent at the time of harvest. Thus a farmer borrowing 10 maunds of wheat in October pays back 12½ maunds in May next. We may now proceed to explain how demand and supply fix the rate at a definite level of, say, 5 or 10 per cent per annum.

Demand for Capital

Users—producers and consumers. They may be private agencies like individuals, firms or companies or public authorities such as central, provincial and local governments. The demand price for capital from producers (those who want to use it for a productive purpose), that is, the rate of interest they are willing to offer for a year's use, is based on the *marginal productivity* of capital. Marginal productivity in any productive undertaking is the net addition made to 'output' by an additional unit of capital, say, Rs 100 employed in it. This marginal productivity in any one concern, and also in all

supply of capital as a whole being given, the producers and consumers will offer rates that equal the marginal productivities and utilities in the two uses taken together. Thus the law of demand operates in the demand for capital as well as in the demand for commodities and services, and may be represented by a demand curve.

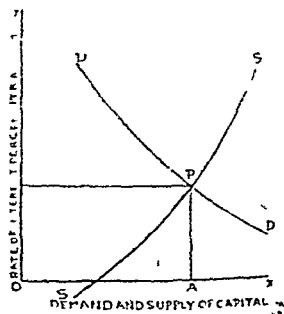
Supply of Capital But capital has a supply price, which has its influence on the rate of interest. Putting capital on the market necessarily involves waiting which is unattractive to people. Postponement of enjoyment of one's income to the future is commonly disagreeable, and the amount of money needed to overcome such disagreeableness constitutes the cost of supply of capital. The measure of this cost, however, differs with savers according to their power and will to save.

There are in each country a number of people whose incomes, and therefore power to save, are very large indeed. There are also those with moderate incomes but with very strong will to save. After satisfying the more urgent wants of the present they begin to value future enjoyment rather highly. They are really prudent people, who cut down present expenditure to the minimum in order to provide for seen and unforeseen wants of the future. Both of these types of people will save even if they got nothing as interest or had to pay something for safeguarding such savings. Similar is the case with the legally compulsory savings such as (a) contributions to provident funds and social insurance schemes of various types and (b) carrying to reserve a minimum proportion of the annual profit by cooperative societies, (c) payment of life insurance premium once a policy has been taken stands in a similar category. Such more or less compulsory savings are increasing in modern societies and will be made irrespective of the rate of interest. Some capital will thus be forthcoming even if the rate of interest were zero or negative. Then come those classes of people who save a small part of their income to provide for the rainy day almost compulsorily, and another part to increase their future incomes through interest expected from investment of these savings. Among these we may include firms and companies that carry a part of their annual profits to reserves, which they build up partly to meet unforeseen losses and partly to increase future profits. In the absence of interest such parties will surely save less. Lastly there exists the largest class

persons with low incomes hardly sufficient to provide all the necessaries and even moderate comforts of life. Saving in their case is a real hardship and only a tempting rate of interest will induce them to postpone present satisfactions for larger ones in the future. These are the marginal savers whose costs of saving or waiting determine the rate of interest in the long run. If the rate is lower than what they expect available supply of savings will be reduced, and the rate is bound to rise unless the demand itself has diminished.

Thus if society needs the savings of these marginal savers the rate of interest must be high enough to induce them to save. Savings of the very rich and highly prudent sections of the population are not enough for social needs, and the only way to augment supply of capital is a rise in the rate of interest. The supply of capital follows the general law of supply, it increases with a rise and diminishes with a fall in the rate of interest, and can be represented by an ascending supply curve. There is no doubt about the existence of some people in each country, who will save more at a lower rate of interest than at a higher one—those who want to provide a given income in the future, say, Rs 1000 per year. They will evidently save Rs 20,000 if the rate is 5%. If the rate rises to 10% they need save only Rs 10,000, if it falls to $2\frac{1}{2}\%$ they will have to increase their savings to Rs 40,000 for an annual interest income of Rs 1000. But the number of such people in any community is so small as not to affect appreciably the general tendency of an increase in savings with a rise in the rate of interest and a diminution in it with a fall in the rate.

Interaction of Demand and Supply At any moment the rate tends to equal marginal productivity of the available supply of capital, in the long run it tends to settle at the point where marginal productivity and disutility of saving are equal. At this point the quantity of capital demanded is equal to the quantity supplied. This may be represented by a diagram such as this



Here quantities of capital demanded and supplied are represented along OX

production on value or price of commodity. The saver abstains from spending his income to consume, this involves sacrifice on his part. Such sacrifice will not be undergone without adequate reward, which is interest. Critics say that it is not total abstinence but only postponement of, or waiting for, the enjoyment of saved income, and that there is no sacrifice involved in the case of savers whose power and will to save are strong. This is true but as we have seen, marginal savers do undergo sacrifice or cost, and it is their cost that determines the rate of interest. The essence of Senior's theory with marginal analysis added to it is shown embodied in the equilibrium theory in so far as according to it supply price determines interest rate. The only weakness of Senior's theory lies in his emphasis on supply only, without a demand price for capital interest could not exist.

3 Agio Theory Devised by the Austrian economist, Bohm Bawerk, this theory explains interest in terms of the excess of present over future satisfaction of equal amount. Human beings suffer from economic myopia or short-sightedness. More distant objects appear dimmer and smaller in size than those standing nearer. Similarly, future satisfactions have a weaker appeal than immediate ones. Add to this the uncertainties of the former. They may not come at all; or the expectant person may die by the time they come. Thus it is that given the choice a person will prefer to have Rs 100 at once against a similar amount after a year. He may however, agree to have Rs 105 in a year. Then this Rs 5 is the agio or premium required to make forth the necessary waiting for, or postponement of, the spending of Rs 100 at once. The theory contains much truth but ignores the demand price based on productivity of capital without which interest will not emerge however high the cost of saving may be. Its essence has been embodied in the supply side of the equilibrium theory.

(4) Time preference theory This is the theory propounded by Prof. Fisher of America and appears to be a development of the agio theory so as to explain interest from both the demand and supply sides of capital. Every individual prefers present to future enjoyment, this may be called 'impatience to spend income'. The rate of interest is related to the rate or premium necessary to overcome this *impatience*. So long as an individual's rate of time preference

is higher than the prevailing rate of interest he goes on borrowing until the two become equal. Others, whose rate of preference is lower than the current rate, lend until the two are equalised. Individuals, firms and corporations are all in this way seen to be both borrowers and lenders, and this may be true except in the case of poorest persons whose incomes are too low to allow lending. This theory thus explains both supply and demand prices in terms of time preference.

One point needs emphasis here even at the cost of repetition. The individual's rate of time preference is seen here to be adjusted to the prevailing rate of interest instead of determining such rate. And this is true, just as the current market price of a commodity determines a purchaser's marginal utility. He extends his purchases to the unit, whose utility to him equals the prevailing price. But it is also true that the utilities of the marginal purchasers as a whole determine the market price itself. Similarly rates of time-preferences of the marginal borrowers and lenders as a whole, relative to the available demand and supply at any time, determine the prevailing rate of interest.

5) Liquidity Preference The late Lord Keynes (for a long time Reader in Economics in the University of Cambridge) has introduced a new theory to explain the rate of interest. He was the most outstanding monetary theorist of his time. He has interpreted the rate of interest in terms of the demand and supply not of savings but of money or liquid purchasing power in the form of cash and current deposits in Banks. Of the total quantity of such money in existence at any time, a part is held as *active balances* which the holders require for their current and contingent needs, another part constitutes *inactive balances*, which are available for lending or investment. None of these latter will be invested, i.e. all of them will be hoarded if the rate of interest is zero, at a certain positive rate, say, 3 per cent, a proportion of these will be invested, at a higher rate, say, 4 per cent more and at a lower rate, say 2 per cent, less will be lent or invested. The rate prevailing at any time must be such as to induce the people as a whole to hold the available supply.

The desire of a person to hold liquid purchasing power preference to lend it or hold it in the form of securities or of assets is his 'liquidity preference'. It increases for both borrower and lenders with (a) a fall in the rate of interest, (b) expectation of a rise in such rate and (c) anticipation of a fall in the prices of securities and other assets. The result of such increase in liquidity preference must be to raise the rate of interest. On the other hand, liquidity preference diminishes with (a) a rise in the rate of interest, (b) expectation of a fall in such rate and (c) anticipation of a rise in prices of securities and other assets, and tends to lower the prevailing rate of interest by increasing the supply and reducing the demand for liquid balances. When a financial crisis and fall in the general price-level are apprehended liquidity preference will naturally increase and raise the rate of interest.

It is generally on the basis of this theory that governments have been maintaining 'cheap money policy' by liberal supply of cash and credit irrespective of savings. But in so far as plentiful supply of liquid purchasing power and cheap money, or low rate of interest, keep the price level up the quantity of money required per unit of *real capital* increases, and the cost of employing such capital goes up in spite of cheap money unless the demand for capital is kept under control. It is not the quantity of money but saving that ultimately determines the rate of interest. Already we are experiencing in India and elsewhere the adverse effects of cheap money in the face of dwindling savings. The equilibrium theory is therefore cannot yet be discarded as disproved.

Differences in the Rates of Interest

The theory of interest definitely suggests the prevalence of a uniform rate of interest throughout the market. Actually we find a very wide variety of interest rates ranging from $\frac{1}{4}\%$ to 24% and more per annum in India. Thus interest on inter-bank call loans of the Government of India Treasury Bills is just about 8 annas per cent per annum, it is about 6% on advances by banks to their customers. In the villages it may be anything like 24% to 36%. But the differences are more apparent than real. The 2% now available on Post Office Savings Bank deposits may be taken as the standard rate representing pure or net interest. Other rates are gross rates. The

that are higher than 2% per annum, such as those available on Governments bonds, bankers advances or loans made to small traders in towns and farmers in villages, are due to differing degrees of risk, inconvenience and cost involved in the loans or investments that yield them. Those lower than 2 per cent, such as yields of call loans and Treasury Bills, are explained by extra conveniences and pecuniary advantages attaching to them. Thus Banks always want to hold liquid resources far in excess of the normal daily demands of their depositors. The money lent by them *at call* is a part of these liquid balances, which will have to be kept entirely idle otherwise. As these loans can be had back at call they are as good as cash, and any rate of interest that can be obtained is welcome. The funds of this nature lying spare with banks are always so large in relation to demand for call loans in normal times that the rate could hardly be more than nominal.

How variations in degrees of risk and inconvenience explain differences in interest rates may be illustrated with a few examples. (1) *Trade bills*, that is, bills or hundres drawn on traders are discounted by banks at a higher rate than *bank bills* drawn on banks because the latter are safer. (2) Even traders bills are discounted at lower rates than the rates of interest charged on loans to such traders. The former bear at least two signatures and are more liquid because they are payable after a short interval of not more than a few months while the loans are for longer periods and likely to call for renewal at maturity. Opportunities to invest at higher rates funds employed in bill discounting are greater than those advanced to customers. (3) A Company's debenture bonds yield lower rate of interest than its shares because the former carry a prior right to annual income as well as to capital on liquidation. (4) Short-dated Government of India securities such as the 1949-52 loan, carry a lower rate than the long dated 1985 loan, because the risk of fall in price and danger of repudiation by a new party coming into power are greater and opportunity to invest at higher rate in a new loan, should it occur between now and 1986, is nil in the case of the 1986 loan. (5) Loans in villages at exorbitantly high rates are explained by very high risk and cost of collecting small loans to borrowers who have little tangible security to offer,

Sometimes a very high rate of return on capital is largely made up of depreciation which is wrongly taken by the owner as income from his capital. For example a private bus costing Rs 5000 may yield in the first year anything like Rs 500 per month after meeting charges for petrol and wages of driver and conductor. This gives an annual yield of Rs 6000 or 120%. But depreciation of tyres, tubes, engine and even the body, if properly calculated, might come to, say, Rs 3000 a year, another Rs 2500 a year might reasonably be the reward for organising and risk taking by the owner. This leaves only Rs 500 a year or 10%, actually the rate of net interest will still be lower than this.

Tendency towards Equality in the Rates of Interest

Differences in rates of interest, yielded by capital employed in different investments and localities tend to disappear through mobility of capital from low to higher yield investments and localities to the extent that mobility is free. Where it is obstructed by difficulties, high costs and risks, as between one country and another, differences are bound to persist. Within a country we do find tendency towards equality of the rate of net or pure interest and also towards equality of the gross rate in equally risky investments. Thus debentures of all sound companies located in any part of India yield the same rate of about 4% at present. Their Preference shares yield about 5%, while ordinary shares may yield anything from 6% to 7%. Equality in the annual yields is brought about by larger sales of those securities which yield less than their counterparts and larger purchases of these latter with the proceeds of the former. Even when such securities bear differing rates, their yields are equalized through changes in their prices. Thus the current price of the 7½% Tata Iron Second Preference share of Rs. 100 is about Rs 140, which gives a yield of about 5% to the purchaser because other similar shares yield 5%. The old shareholders, who obtained it at Rs 100 when the company was floated, no doubt get 7½% but the additional 2½% is in the nature of quasi rent because the number of such shares issued by the company is limited.

But so far as the various investments such as those in land business and securities differ in the degrees of risk involved in each differences in gross yields must persist. They are really different

things, having their separate conditions of demand and supply. Where risk is less, such as in landed property and electric supply concerns, supply of capital is greater and its marginal productivity low, naturally the yield is also relatively low. Where the risk is greater as in tea, rubber and mining companies, the supply of capital is smaller and marginal productivity and yield higher. The risk of no dividend and loss of capital sum itself makes the cost of supplying capital higher. For such capital supply means not only waiting but also bearing of risk of a high degree. Thus there is little mobility of capital between low and high risk investments, the result is permanently (a) low yield of capital invested in Government bonds and company debentures, (b) moderate return on that invested in houses and electric supply companies and (c) relatively high annual rates secured from shares of tea, rubber and mining companies on an average over a long period.

It may be noted that equality of return from equally risky investments is only in regard to free capital like liquid funds which can be easily and quickly transferred from low to high yielding fields of employment. Such transfer is not possible in the case of specialized capital like presses and factories equipped with machinery. Rotary printing machines and looms cannot be converted one into the other. If Presses begin to yield higher returns than cotton mills during impending elections, the press owners make much higher profits than holders of cotton mill shares because spindles and looms cannot be used to turn out leaflets and posters demanded by contending political parties. Such high yields from presses are then quasi-rents which go to their owners. Low or zero returns on cotton shares are also quasi-rents, reduced by the relative fall in demand for products of cotton factories. But this is a temporary phenomenon, the flow of free capital will now be diverted to presses - that going to establishment of cotton mills stopped—until *net returns* are equalized as they will be in course of time. Return on free funds is equalized much quicker. Prices of presses or their shares will rise in the market, those of cotton mills will fall. Thus the returns for new investors of liquid funds in both types of investments will become more or less equal almost immediately the variations in their respective yields become clearly marked,

Much of this explanation of variations in yields, it may be noted, applies to profits more than to interest in so far as variations are almost exclusively due to differing degrees of risks, whose rewards are profits, not interest. Pure interest like pure gold is everywhere the same. All types of investments and lumps of gold, when shorn of impurities through economic and chemical analyses, are seen to be so. It is the differing proportions of the profit element in one and mixtures of copper or other baser metals in the other that explain dissimilarities.

Interest, Wages and Profits

On the whole, the rate of interest tends to much greater equality than the rates of wages and profits because of greater mobility of capital from one locality or employment to another. Capital is more mobile due to

(1) **Its being impersonal.** Its movement is not hampered by differences of language and climate, nor by personal prejudices, which affect labourers, who have to move personally. Thus a railway porter may hesitate to become a butcher for higher wages but will probably not do so in lending to a butcher at 15% instead of to a baker at 10% if he had any capital to invest. (2) Ignorance among capitalists is less than among labourers about the most advantageous opportunities of employing their respective resources. (3) The cost of transferring capital per unit is much less than the cost of movement of a labourer's family. Thus Rs 10,000 may be sent from Kanpur to Calcutta for less than Rs 5, but a labourer's family may cost something like Rs 50. (4) No natural barriers like differences of aptitude and inborn talent exist between one class of capital and another as they do between different classes of labourers even within the same country. (5) Specialized capital like machinery wears out much quicker than specialized labour. Thus if Jute Mills become unprofitable stoppage of renewals and replacements will extinguish them in, say, ten years. But if engineers' earnings go down for any reason, it will take a whole generation for their supply to disappear even if no new entrant takes up the profession.

Fluctuations in Rates of Interest

We have seen the causes of differences *existing at a particular time* in the rates of interest obtainable on different kinds of loans

or investments of capital. These variations are almost wholly differences of profit and not interest element in the rates of periodical return on capital. Let us now examine the causes or factors responsible for rise and fall in the rate of interest *from time to time*. It is possible, but not practicable, to confine attention to fluctuations in the rate of pure or net interest only. Interest and profit elements in returns on capital are so mixed up that changes in the latter cannot be ignored altogether in any discussion of such changes. The important factors that alter rates of interest act, it will be seen, through their influence over demand and supply of capital. Any factor that increases marginal productivity and demand price of capital raises the rate of interest, one that lowers the supply price and increases the power and will to save lowers the rate of interest. On the other hand, forces that lower marginal productivity, through increase in savings or otherwise, bring down the rate of interest, while contraction in savings, from whatever cause, raises interest rate.

1 Inventions Inventions of machinery and improvement in the methods of production and transport usually increase the demand for capital, which is needed to apply them in practice. But in course of time they also increase productivity of capital as well as land, labour and enterprise. The result is an increase in incomes and power to save of the various classes of the community. Thus the effect of inventions on the rate of interest is on the whole and over a long period to keep it steady, it increases both demand and supply of capital. In so far, however, as inventions are capital-saving, that is, introduce new machinery of simpler and less costly design, they increase supply more than the demand and lower the rate of interest. Tendency since the advent of the Industrial Revolution has been towards a gradual fall in interest rates due to constantly expanding productive capacity of the industrial world.

2 Discovery and economic development of new countries The effect of these and of the industrialization of old countries is similar to that of inventions in the long run. Thus India and China as well as the United States of America, Canada, Australia and other new countries have made continuously heavy calls on the capital accumulations of Great Britain and France during the 19th century and early 20th, and they have thus kept up the rate of interest. But,

except for China, they have now made enough progress in industry and agriculture not only to be able to stand on their own legs but also to spare capital for their older creditors. We know how America has met huge demands for capital from Europe during the World War I and ever since. She is just now financing the huge European Recovery Programme. Canada, Australia, South Africa, India and Argentina have all provided considerable amounts of capital to Great Britain during World War II as evidenced by their accumulations of sterling balances. All this shows how capital investment bears fruit, increase in the demand for it swells supply more than in proportion and tends to lower the rate of interest.

3 Wars War is the deadliest enemy of capital. It feeds on enormous quantities of real capital, retarding not only growth of capital but consuming considerable portions of the existing capital. We are all familiar with the fact of Indian factories having been over-worked and starved of repairs and renewals during and since the war. The bulk of the war finance raised from increased taxes and loans is utilized in acquiring munitions that merely feed the weapons of destruction. Naturally a war increases the demand for capital, reduces its supply and raises the rate of interest. This is what happened during World War I, when the rate of interest on government loans in India, as elsewhere, rose from about 3% to 6%. During World War II rise in interest rates has been kept down by 'cheap money' policies of the various governments. This cheap money or low interest rate has been maintained by a liberal supply of cash and credit on the one hand, and a very rigorous control over the demand for capital from the side of industry and trade. For example, floatation of new companies and starting of new factories and businesses of certain types have been under heavy restrictions since 1943.

4 Changes in price-level This is a monetary phenomenon and concerns the theory of money and banking. However, it will not be out of place to consider its effects on the rate of interest. Perceptible changes in the general price level usually occur under two distinct conditions —

(A) **Normally** during the course of a trade or business cycle, which is marked by two phases (1) an era, designated a trade boom, of expanding credit, rising prices, increasing profits and expansion in all

types of business activity and employment and (ii) boom in trade is followed by stagnant credit and prices which soon lead to a period of trade depression or slump, when credit shrinks, prices fall, profits decline or vanish and trade, industry and employment are all at a low ebb

(B) **Abnormally** during periods of (i) inflation which occurs during a war or other emergency, when state expenditure increases much beyond revenues and resort to over-expansion of note issue and bank credit leads to continuous rise in prices and (ii) deflation, which means contraction in currency and credit, brought about by deliberate state policy to lower the price-level or by scarcity of gold, in either case prices experience sustained fall and then stagnation at a low level. Inflation and deflation thus greatly resemble boom and depression and affect the rate of interest in a similar manner.

In periods of rising prices profits increase enormously and trading with borrowed capital becomes extraordinarily profitable. Goods purchased with a loan of Rs 1000, obtained at 6% interest for example, may become worth Rs 1500 after a few months, the loan can then be repaid by selling only two-thirds of the quantity and the remainder accrues to the borrower as a profit. The creditor, however, loses what the debtor gains. The result is great increase in the demand for capital and the rate of interest rises, which partly compensates the creditor. When, however, prices begin to fall the real burden of debt increases, the debtor loses and the creditor gains. Consequently the demand for loans falls off considerably and the rate of interest goes down. In periods of inflation supply of money increases and yet the rate of interest, unless controlled, rises. This is because prices rise and the demand for money also increases proportionately in so far as borrowed money is after all employed in obtaining real capital at inflated prices. Such rises and falls in interest rates have invariably occurred in periods of inflation and deflation and of trade booms and slumps in the past.

Maintenance of cheap money rates in India and elsewhere during the last World War and since, in spite of heavily inflationary conditions, has been due to various measures of control over demand for capital, such as restrictions on capital issues or flotations of new

companies and extensions of the old ones. Scarcity of capital goods in India and abroad has also kept down the demand for money. Wherever, however, demand has been free, as in the villages and towns, for trade in agricultural produce and for smaller industries the rates of interest have gone up enormously. Evidently, if a village trader or city artisan can add Rs 50 to his annual money income by borrowing Rs 100 because of constantly rising prices he will willingly offer anything like 25 to 40% per annum. The author has known cases where village Baniyas have been offering recently as high as 36% interest on short term loans, of course the rates in the organized money market have remained low because of control over demand.

Money and Real Rates of Interest

Money rate of interest denotes the amount of money a lender receives from the borrower as interest for a given period, say a year. **Real rate** means the amount of goods and services purchased by the amount of money received as interest. When the price-level does not change between the dates of lending and repayment of a loan of money the money and real rates of interest are the same. But when the price-level does change, the two rates diverge. Thus if A lent Rs 100 at 5% he will get back Rs 105 at the end of a year. The additional amount of Rs 5 represents the money rate of 5% per annum. The receipt of Rs 105 will also mean that he can purchase 5% more goods than he could with Rs 100. So the real rate in terms of goods is also 5% in case prices remain stationary.

But if prices in general fluctuate between the two dates money and real rates will become different. Suppose prices of goods are doubled, so that real value of each rupee is halved. Then the lender, who receives back Rs 105 at the end of the year, can purchase a quantity of goods that is only half of what it would be if prices did not rise. Thus the purchasing power of Rs 105 will be equal to Rs 52½ only, which means that the creditor gets a **positive money rate** of 5% but a **negative real rate** of 47½%. For in terms of goods he gets back so much less than what he lent. Again, if prices are halved and the value of each rupee doubled, the creditor will still get the same money rate of 5% but in real terms the rate will be 110%. For Rs 105 will purchase goods worth Rs 210, and the Rs 100 lent will bring in a year additional purchasing power equal to Rs 110.

For the real rate to remain $5\frac{0}{10}$ in times of price fluctuations it is necessary that the money-rate should become (a) $110\frac{0}{10}$ per cent per annum if prices are doubled and (b) $47\frac{1}{2}\frac{0}{10}$ when prices are halved

Actually borrowing becomes extraordinarily profitable during periods of inflation or rising prices and pushes up the money rate of interest. And when prices are falling borrowing becomes very burdensome, it is greatly discouraged and the rate of interest is lowered. But changes in interest rates lag behind changes in the price level both in time and magnitude and the result is feverish booms of business activity with borrowed funds in periods of rising prices, followed by heavy slumps in business and employment when prices begin to fall.

The future of the rate of interest

The separate effects of the various factors on the rate of interest have just been indicated. It is now possible to examine their combined influence. Apart from wars, which occasionally increase the demand and reduce the supply of capital and thus raise the rate of interest, most other facts of modern economic life increase both the demand for and the supply of capital and thus tend to stabilise such rate. Inventions in particular and economic progress in general have this effect. Inventions increase the power to save, social progress increases foresight and prudence and promotes the will to save, supply of capital thus grows continuously. But so does the demand. Inventions need capital to be applied in practice, economic progress multiplies wants, both create increasing demand for capital.

To the extent that productive power and regard for the future grow faster than demand for capital, interest rate must tend to fall. But then constant increase in population counteracts this tendency, and it is a matter of common knowledge that the trend of interest rate has been towards stability at about $3\frac{0}{10}$. It is not possible for the rate of interest to become zero, as some have argued, so long as the wants of the people remain unsatisfied and the urge to satisfy them, i.e., impatience to spend income, does not disappear.

B. PROFIT.

Gross and net profit

We have seen how the elements of interest and profit are largely mixed up in the income of a person owning capital. Yet

theoretically they can and ought to be separated *Profit* is the reward of organisation and risk taking while *interest* is the reward of pure waiting. The total income of a business man employing his own capital is often spoken of as profit. But this is *gross profit* or income, in which one or more of the following elements may be included: (1) Pure rent, accruing to him as owner of the *site* of his shop or factory, (2) Pure interest on his own capital invested in buildings, machinery and materials, (3) Wages for any ordinary work done by himself—manual or mental, (4) Depreciation on fixed capital, if it has not been charged before arriving at the annual profit. The first three of these it may be noted are rewards of factors other than organisation and enterprise. What remains after subtracting these elements is his *net profit* which accrues to him as (a) remuneration for organising or directing his business—big or small—and (b) reward for bearing the risks of business. A person's income may conceivably consist only of *pure profit* in the economic sense if he uses only hired land and labour and borrowed capital and provides for fair depreciation on all the fixed capital used.

It may be interesting to analyse the annual net earnings of a company and the interest and dividend distributed by it to the holders of its debentures and shares. Debenture interest is largely *pure interest*, to the extent that debentures carry greater risk than Government bonds and yield a higher return such interest contains a part of the company's annual profit, which is thus shared by the debenture holders with the shareholders. The remainder of the earnings distributed as dividend on shares is seldom pure profit. Usually a company purchases the land or site of its factory, and a part of its net earnings are (1) *economic rent*. Another part consists of (2) *pure interest* on capital provided by the shareholders, interest on capital borrowed from debenture holders and banks is of course already deducted. The remaining part of the annual dividend is then (3) reward for risk borne by the shareholders. It contains no element of remuneration of organisation and direction which accrues to the managerial staff and directors as salary and fees respectively, very often they get something

*The bulk of the profit of a street hawker it may be noted, is made up of wages of his own labour. As an entrepreneur he bears little risk and employs managing ability of a low order. His profit in the economic sense is therefore really small.

over and above this as bonus or commission out of net profits in the technical accountancy sense. But bonus and commission are also reward of organising work. Thus the annual dividend received by a shareholder consists of interest and reward for risk and may contain an element of rent if the company's landed property is *freehold* and not *leasehold*. Yet the dividend obtained does not contain the whole of these elements to the extent that a part of the net earnings is generally carried to one or more types of reserves, the whole or part of which may be distributed in future years as cash dividend or in the shape of bonus shares. Some of these reserves, such as those created for necessary depreciation, repairs and renewals, are not profit.

Economic Profit

The net or economic profit thus separated from extraneous elements, consists of the following components :—

(1) *Normal profit*, which is necessary over a period of time for a business to continue. It consists of (a) normal rewards for organisation or *wages of management* and (b) normal reward for risk borne by the proprietor. (2) *Surplus Profit* which means anything obtained in excess of normal rates of reward for management and risk-bearing.

Determination of profit

Profit, like interest, is usually expressed as a percentage on capital invested in a business. This is correct to the extent that it accrues as a reward for risk to which such capital is exposed, but the method of expression is wrong in so far as profit includes remuneration for personal services of the entrepreneur. Where, however, organisation and direction are entirely in the hands of salaried staff, profit accruing to the enterprise may well be expressed as a percentage on his capital, provided pure interest as such is allowed for. Whether we express profit as an annual percentage earned on the entrepreneur's capital or as his personal remuneration, the important point here is the forces that determine the rate or amount of such profit.

One thing that is very distinctive about profit is that it is a *residual income*. Rent, interest and wages, as remunerations of the other three agents of production, are usually settled in advance and have to be paid out irrespective of the net earnings of a business. If these

net earnings are large in any year profit is enormous, but if earnings are nil, small or negative profit may well be **loss**. This is not uncommon, some businesses actually run at a loss for years together¹. This characteristic of profit as a residue, which may prove negative in certain years, is shared, it may be noted, by interest and rent to the extent that capital and land employed in a business belong to the proprietor. He has to satisfy the claims of labour and of the owners of borrowed capital and hired land. His own income made up of rent and interest as well as of profit may suffer.

Considered from a short period point of view profit is thus a residual element of income, which may be large, zero or negative. But no business can run for long with zero or negative profit, nor can it continue to earn fabulous profits for any length of time because of competition, unless of course such competition has been eliminated by monopoly. There is in every line of business a normal rate of reward for organising ability and risk-bearing, and such rate tends to prevail over a period of years. Each of the two elements of organisation, viz., management and risk bearing, has its own demand and supply prices, based on its marginal productivity and marginal cost, which determine the average rate of profit coming to each of them. The forces of demand and supply work in each case as follows —

Normal Profit.

1 Wages of Management Every business needs some organising skill, factory and office must be equipped and directed properly or else business, howsoever efficient as a productive unit, will not show profit. Naturally such managerial ability must be remunerated at a scale appropriate to the grade of such ability. The scale of such remuneration can be ascertained from that earned by salaried employees of similar businesses. Naturally the higher the grade of ability needed, the larger is the cost of acquiring it and the smaller is the number of persons possessing it at any time, the marginal productivity itself is high. Thus both supply and demand prices are directly related to the degree of managing ability and the wages of management or superintendence. They are governed by the same forces as wages of labour. They differ from industry to industry and from one

¹ Incidentally loss is also profit (though of course negative) in the sense that it is the reward of enterprise.

hazards of the sea, accident, riots, earthquakes and storms are now easily insurable. The premiums paid by a businessman reduce both risks and profits. But there are other types of risks which are not so certain in their incidence, and cannot therefore be insured against. Such are the risks arising from changes in population and its tastes, progress of new inventions and processes in production and transport, discovery of new sources of supply and exhaustion of the old sources, and changes in supplies of money and credit. All these cause fluctuations in prices and costs of goods and therefore in profits accruing to their producers. Such risks are a continuous feature of modern societies. They are taken over by entrepreneurs, who reap the rewards for rendering a necessary service.

Surplus Profit

Normal profit is due to the efforts of the enterpriser, it is a necessary element of the cost of production of goods produced by him. But anything obtained over and above this is *surplus profit*, its accrual is not essential for the continuance of business. Such surplus or excessive profits may be due to one or more of the following causes -

(a) **Existence of monopoly**, which enables the enterpriser to restrict output and raise price above cost. (b) **Special advantages in time and place**. A new factory started in a new place may continue to yield high profits until other competitive firms come into existence in such place or locality. But such extra profits are really in the nature of temporary monopoly profits, emerging because of scarcity of goods produced in relation to the demand and because therefore a price higher than cost can be charged. (c) **Chance gains**. Profits resulting from such causes as war are accidental. They are *surplus* and not *normal* to the extent that their existence is not necessary for a business to continue. They are really exceptional gains. But usually they are offset by chance losses such as those occurring in times of trade depressions. The bulk of such gains are now appropriated by the state in the form of excess profits tax.

Some economists have argued that surplus profit is like rent and does not determine price. This is of course true in so far as such profit is not an element of the cost of production but is a surplus over such cost, obtained because price is higher than it. This is particularly

mean the same annual rate of 30% on Rs 1,00,000 as in retail trade. This equality, in the annual rate of profit on capital and wide variation in the rate of turnover profit are the natural outcome of competition and mobility of capital. If the rate of turnover profit were as high in wholesale as in retail trade, capital is likely to be transferred from the latter to the former until the annual profit obtained in the two lines becomes more or less equal. This accounts for the fact that in the shipbuilding and locomotive manufacturing concerns, where annual turnover is a fraction of the total capital invested, the rate of profit on the turnover is higher than the yearly rate of profit on the capital invested.

The Future of Profits and Private Enterprise

Apart from socialistic schemes of nationalizing both private capital and private enterprise, *normal profits* like interest will continue to exist because saving, managing and risk bearing are necessary and yet scarce factors of production. It is true that organising ability is being acquired by increasing numbers with the spread of general and technical education, risks of business are also being studied and reduced through advancement of knowledge in the fields of science and statistics, this should lower both the wages of management and reward for risk. They are actually going down in older industries like cotton manufacture, whose technique of production and marketing has been perfected and stabilized. But it is equally true that the demand for managerial skill is keeping pace with its supply, while new industries with fresh risks are appearing as older ones are mastered, the result is that profits as a whole show no tendency to disappear or even to go down. *Surplus profits* due to monopoly, temporary or otherwise, are, however being increasingly reduced through growing competition and state action.

But private profits as a whole must vanish as and when private enterprise is itself abolished. Marxian or communistic thinkers call profits as robbery. According to them they are secured at the expense of the workers, who produce all wealth and are entitled to the whole of it. It is, however, evident that even in their scheme wages of management will remain to the extent that managers have to be employed. And such wages are much higher in the communistic state of Soviet Russia than the wages of ordinary workers we call labourers—skilled and unskilled. It

CHAPTER XXIV

WAGES

The nature of wages

In the language of common use wages denote daily or weekly payments made to hired manual labourers by their employers. In economics the term wages is used in the much wider sense of remuneration obtained for any kind of work—manual or mental—except that of organisation and direction of a business. The latter is technically *organisation* and not labour, and its remuneration is called wages of management. Yet there is not much difference between the two so far as forces determining them are concerned. Wages in this broad sense are not necessarily incomes of those employed by others, those who work in their own business also get wages in the shape of an extra income over and above interest and profit on capital invested. Again, though the vast majority of workers are employees and get stipulated rates of wages irrespective of profit or loss to the employers, independent workers, such as hawkers and handloom weavers, may lose wages along with interest and profit if market price of their products turns against them for any reason. And, of course, wages may be received in cash or in kind, and may be called by any name such as salaries, fees, commission or bonus.

Wages are as a rule paid in cash in all economically advanced countries of the world, but part of them may be paid in kind in the shape of free lodging, boarding or other concessions attached to an occupation. Cash wages may themselves be paid by the *time*, i.e. so much per week, or by the *piece*, that is, according to quantity of output irrespective of time. Part of both time and piece wages may be paid annually as bonus or as commission, or as a share in profits calculated as a percentage on the quantity or value of output or on the net profit of the business as a whole. Bonus and profit sharing schemes are now being increasingly adopted partly to interest the workers in the success of a business, and partly to keep them pacified. For example, if bonus on monthly output per worker beyond a certain

minimum quantity or a share in net profits is promised, the labourers are almost certain to exert their energies to the utmost. Such payments prove advantageous to both the employees and the employers.

Time and Piece Wages

Piece or efficiency wages are those paid according to the amount of output of each worker. The system is *advantageous* as (1) it enables a worker to put in extra effort and increase his income (2) the more efficient worker earns more than the less efficient one and thus efficiency is properly rewarded and encouraged (3) output is greater, which means increase in national dividend (4) the employer is able to obtain work according to payment, to estimate easily prime or direct cost per unit of output, and to pick out the more efficient workers for suitable promotion (5) Fixed capital equipment in the shape of machinery and buildings is more intensively used and thus supplementary costs per unit of product are reduced (6) The consumers also gain to the extent that the piece-wage system reduces costs and prices of goods. But the system has its *drawbacks* (a) It may lead to deterioration in quality and is unsuitable where quality is important (b) It is impossible to apply where goods are not standardized and work cannot be measured such as that of supervision by foremen (c) Worker's periodical income and standard of consumption are likely to become irregular (d) There is the likelihood of the workers overstraining themselves and ruining their health (e) Employer himself may be a loser to the extent that machinery and materials are handled with less care to increase output.

Time Wages system is free from these disadvantages and has its own *merits* in so far as the worker, receiving a fixed sum per week or month, will (1) pay proper attention to quality of work, (2) use carefully machinery and materials, (3) have no reason to overwork himself and (4) have a regular income and family budget (5) The system is simple to enforce, requiring no daily record of output of each worker, it is of course inevitable where work cannot be measured such as supervisory and repairing work. Against these merits it has its own *drawbacks* such as (a) slackness, to prevent which more detailed and costly supervision becomes necessary, (b) the more efficient workers are apt to become lazy in the absence of any extra reward and

(c, the employer can neither judge nor reward properly the differences of efficiency of the employees

Nominal and Real Wages

Nominal or money wages, whether paid by the time or by the piece, denote the amount of money a worker receives as wages periodically. In these we may also include any extra sums of money received as allowance or bonus and the money value of periodical receipts such as free house and uniform provided by the employer. *Real wages* mean the *amount of necessities and comforts of life* which money wages of a worker procure in the market. Evidently it is the real wages which determine the worker's welfare. 'A comparison of money wages prevailing in one locality or occupation and another, or in the same locality or occupation at different times, gives us little indication of the differences in welfare of the recipients. For this purpose we ought to be able to form an idea of the quantity and quality of food, cloth, shelter and other amenities of life which money wages procure at different times and places. The most important factor governing real wages in an occupation at a particular time and place is the purchasing power of the money wages. A higher money wage at one place or time than at another may be illusory, being counterbalanced by higher price-level or cost of living. Thus although nominal wages, including dearness allowances, are now much higher in India than they were before the war, the cost of living index is higher still and real wages are in most employments appreciably lower. For example if cost of living has risen four times as high as it was before the war and wages are only twice as high, real wages have gone down by 50 per cent. This is the reason behind the prevailing atmosphere of strikes and threats of strikes by employees of factories, railways and other establishments.

Net advantages

In ascertaining the real wages of an occupation we must make an estimate of the *net advantages* accruing to its workers. Having taken into account the purchasing power of the money wages we must add other advantages available in it, if any, such as (a) allowances in money or kind including pensions, (b) facilities in respect of medical aid and education, (c) chances of supplementing the family income, (d) security and regularity of employment and chances of promotion.

and (c) the extent of leisure available and social status attached to it. Deductions must be made for such disadvantages as (a) expenses connected with an occupation and borne by the workers, e.g., provision of tools by the carpenters and masons, (b) irregularity of employment and (c) inferior social position or hardships attached to it. It is these net advantages which constitute the real wages of an occupation and act upon the supply of labour in it. They differ from occupation to occupation according to difference of general education and ability, specialized skill and efficiency required in the employees.

The net advantages in terms of *real wages* or incomes tend to be equal in occupations requiring similar grades of physical and mental abilities through mobility of workers from lower to higher wage employments. Thus unskilled manual workers such as porters get more or less the same net real wages in factories and farms and in cities and towns. Peons employed in almost all offices or institutions get nearly equal wages. Differences, where they exist, are only *apparent*, being only in nominal and not real wages. Lower money wages in one place or occupation are usually compensated by other allowances or conveniences. For example, the lower daily wage of unskilled labourers in the villages is compensated by rent-free houses, free supplies of fuel and greater leisure. The higher daily wage in cities is counterbalanced by higher cost of living in the shape of house rent, fuel and separation from family and friends. Again, lower wages of peons in some government offices may be compensated by free quarters and uniforms and extra income in the shape of tips paid by visitors. Of course differences in net advantages persist to the extent that mobility is hindered.

Determination of Wages

Gradation of Labour

Wages are the price of labour or personal services rendered for a given period of time or per unit of output, as such they are determined by the demand for and supply of labour. But all labour is not of one kind, there is a number of different grades of labour, each of which has its separate conditions of demand and supply. Such grades form largely non-competing groups, that is, there is in practice little mobility from one to the other. Exceptions there are but they are rare. At the bottom of these grades stands the largest group of

unskilled manual workers, whose incomes, temperament and ambitions all combine to keep them and their descendants in their own group. Among these we may include all labourers in urban and rural areas, including most of the smaller tenant farmers. Next comes the group of skilled workers, such as carpenters, blacksmiths, masons, shoe-makers, weavers and fitters, working independently or as employees in factories and workshops. A third group consists of the educated lower middle class, which has some general education and provides clerks, school teachers, inspectors and supervisors for various government departments and industrial establishments. Then comes the professional class, consisting of doctors, vakils, accountants, professors, engineers and salaried business managers. Lastly, there is the group of exceptionally endowed people, who are leaders in various walks of life. From this group are drawn ministers, business heads and directors of government and industrial establishments. There is enough mobility within a group, for example, a doctor's son may become an engineer or a clerk's son may become a school teacher and vice-versa. But movement from one grade to the other is less pronounced, due to lack of opportunity, natural talent or ambition.

There are thus separate wage rates received by different grades of labour. There is no *general rate of wages* applicable to labour as a whole except in the sense that all the particular wage rates usually rise and fall together due to common factors such as rise and fall in the general price-level, growth of capital and inventions, opening up of new natural resources or exhaustion of the old ones.

The Demand for Labour

The rate of wages an employer offers or is willing to offer to a labourer belonging to any one of the numerous grades is his demand price for labour of that particular grade. His offer of such a rate is based upon the price society is willing to pay for the net product of such labour. This is equally true of independent workers like handloom weavers whose wages come out of the price obtained for their product in the market. Thus the demand for labour is indirect, being derived from the demand for the things produced by labour. Where the product is attributable to labour of one person only, such as fuel or wild fruit gathered in the jungle, the whole of the price offered for such product constitutes the demand price or wages of

labour. But the matter becomes complicated where the product is the result of combined efforts of other agents of production as well as labour of many persons belonging to different grades. Here it is difficult to calculate the contribution of each single labourer to the price of the whole product. Yet, an estimate is theoretically possible, and it applies roughly in practice.

Marginal Productivity determines wages An employer can offer to each individual labourer of a particular grade wages that are equal to marginal productivity of such labour. This is the maximum he will not be willing to pay more, and will pay less if he can find men willing to accept less. This marginal productivity of labour of any kind or grade is, as we have seen in Chapter 21, equal to the net addition made to the output by an additional labourer of that grade, in terms of money it equals the money value of such net additional output. For example, suppose that a weaving factory employs 1000 weavers and produces 10,000 Dhoti pairs per month, then if by employing an additional weaver the monthly output is increased to 10,010 pairs, 10 pairs is the gross addition made to the output. To arrive at net addition we must deduct the additional quantity of cotton used and extra wear and tear of machinery involved in producing the additional 10 pairs. Net product in terms of money may be estimated by deducting from the market price of the 10 pairs the money value of additional cotton and depreciation of fixed capital. If each pair sells at Rs 7/- and the money value of cotton and depreciation are together equal to Rs 2/- per pair, then the monthly marginal productivity of weavers is Rs 50 $\{(Rs\ 7 \times 10) - (Rs\ 2 \times 10)\}$. The factory owner cannot offer more than this and may pay less if weavers are willing to work at less than Rs 50 per month.

But if marginal productivity is Rs 50 and wages, say, Rs 40 per month it will be profitable for the factory owner to employ more weavers. Then as more weavers are employed marginal productivity will decline, additional weavers will theoretically be employed until marginal productivity falls to Rs 40. Further addition will mean loss to the employer. Again if, marginal productivity is Rs 50 and actual wages are Rs 60 per month, the employer will incur loss and he will reduce the number of weavers employed. This will increase marginal productivity and the process will be continued until it is

brought up to Rs. 60. Thus under conditions of minute calculations and perfect knowledge among competing employers, there will equal marginal productivity.

The Supply of Labour

The supply of labour as a whole, denoting the total number of persons seeking employment at any time, is more or less fixed in a country. Even if we take into account different groups or grades of labour we find similarity in so far as transfer from one to the other grade is largely hindered by the difficulties of moving up or down in these grades. Wages are thus for long governed by marginal productivity or demand for labour. Yet labour of each kind or grade has its supply price, which exerts its influence over wages in the long run. Continuance of a wage rate higher than this supply price of a particular grade increases numbers and brings down marginal productivity and wages unless productivity itself is raised by inventions or opening up of new natural resources. A wage rate lower than the supply price reduces numbers entering the particular grade and brings up productivity and wages to the level of supply price.

Subsistence Theory of Wages Classical theory of wages propounded by Ricardo is based, like the general classical theory of value, upon the supply price or cost of production of labour. It has been called the subsistence theory of wages because according to it "The natural price of labour (which of course means normal wages) is that price which is necessary to enable the labourers, one with another, to subsist and to perpetuate their race, without either increase or diminution." It means that wages tend to be equal to the amount of bare necessities of life required by a labourer's family to subsist or just exist. It of course includes not only food, clothing and shelter required by the working adult during the period of work but also what is necessary to maintain his wife and children and himself after retirement. For if wages are not sufficient for these latter purposes families cannot be reared and the labour force will in the course of a generation disappear altogether. Thus the cost of labour supply, or the supply price of labour, includes maintenance charges of the working labourer as well as his family, and wages equal these charges for the labourers "to subsist and to perpetuate their race without either increase or diminution." Wages are maintained in the long run at this subsistence level by (a) increase in numbers if they rise above this level, for the higher wages enable the labourers to marry early and rear larger families, (b) decrease in numbers if actual wages fall below this level because wages lower than necessary for subsistence do

workers fixes the minimum wages, below which workers will not marry and procreate children. It helps to raise and keep up wages by (a) limiting numbers that are born, or restricting increase in population caused by rise in wages above the subsistence level, (b) increasing efficiency or marginal productivity through better standard of consumption, and (c) raising, as it were, the cost of production or supply of labour. Basic wages of skilled workers and other superior grades of labour are also raised by a rise in their respective standards of living apart from the additional wages they get due to cost of education and technical training their occupations demand. The rise of the standard of living and wages does not falsify, it may be noted, Ricardo's theory of wages. Wages are still governed by the cost of maintaining labour, the standard of living raises this cost and through it wages. The theory is thus confirmed.

It is necessary to note here that wages and the standard of living are mutually related. The standard of living cannot rise without a rise in wages, wages cannot rise without an increase in productivity of labour. Standard of living can only maintain wages at a level to which they have already risen by such causes as inventions and discovery of new sources of materials and power. This is confirmed by the recent economic history of industrially advanced countries, where wages and standard of living have gone up together. Thus we see that rise in the standard of living is not the original cause of high wages, it helps only in maintaining high wages. Nor are high wages necessarily the cause of high standard of living. People accustomed to a low standard of subsistence may futter away additional wages in harmful consumption or in increasing families. This is usual if the rise in wages is temporary. It is only a sustained rise in wages, caused by increased productiveness of labour and accompanied by progress in habits of thought and living, that can raise the standard of living. Increase of productive capacity in India through planned development of agriculture, mines and manufactures is expected to raise the wages and the standard of living of Indian masses. There is no other short cut that will succeed.

We see then that wages of any grade of labour are determined by its marginal productivity, discounted at the current rate of interest. Such wages are also influenced over long periods by the supply price

of such labour as governed by its standard of living plus cost of education and training required in its members "Wages tend to equal the net product of labour, its marginal productivity rules the demand price for it, and, on the other side, wages tend to retain a close though indirect and intricate relation with the cost of rearing, training and sustaining the energy of efficient labour" *

Wages Fund Theory.

John Stuart Mill's Wages Fund theory was for a time accepted as correct but its weaknesses were soon realised and it was abandoned by the author himself. It is now only of historical interest. According to it a part of the limited capital at the disposal of the employers at any time is used for fixed capital and another part, called the circulating capital, is set apart for hiring labour or paying wages. This latter part, termed Wages Fund, is fixed in amount, and wages are determined by the relation between this fund and the number of labourers seeking employment. The formula is simple. Wages are equal to wages fund divided by the number of labourers in a country. Evidently then wages rise if the numerator or the wages fund increases, or the denominator or the number of labourers decreases. They will of course fall with an increase in the number of labourers or a decrease in the amount of the wages fund. The theory is obviously erroneous. There is no fixed wages fund, it increases and decreases as employment of labour becomes more and less profitable. The theory takes both demand and supply of labour as fixed, but demand is really never so fixed. Nor can it explain differences of wages.

Differences of Wages.

Wages vary very widely not only from one locality or occupation to another but also from one person to another engaged in the same occupation. This is true of both nominal and real wages. Some of these differences may be only apparent, for example, money wages of unskilled labour in villages are lower than in cities due largely, as we have seen, to differences in costs of living. Real wages are more or less equal. Again, very often lower money wages in one place or occupation than in another for similar grades of labour are due to the existence of variations in other advantages available in those occupations or places. Any real differences that do exist

*Marshall Principles p 532

tend to disappear through mobility unless such mobility is obstructed by such factors as ignorance, prejudice or legal bars, or sometimes by the prohibitive cost of movement. Personal wage differences in the same occupation or grade are due largely to differences of ability or efficiency. Thus some doctors have a much larger practice than others because of their superior ability as physicians or surgeons. Sometimes such personal differences may be explained by just favouritism of the employers, this is rare in business houses and more common in public services. The establishment of public service commissions is, however, tending to reduce this favouritism or nepotism.

The more fundamental and permanent differences in wage rates are based on more or less complete immobility as between different grades of labour and the obvious differences in the demand and supply prices of these grades. *On the side of supply* differences arise not only due to variations in time and cost involved in training but also because of differences in agreeableness, security of employment, chances of success or promotion and in inborn talents. So far as high wages are due to native genius they are in the nature of rent and arise from mere scarcity. But ordinarily differences are due to differences in costs of acquiring the ability. Disagreeableness, insecurity and lower chances of promotion in an occupation or place are themselves costs which limit numbers entering into it, and tend to make wages higher to provide attraction. Thus, other things being equal, wages are likely to be higher in occupations carrying lower social prestige, greater inconvenience or risk as in locomotive driving, or greater insecurity of service or less chances of success and promotion. *On the side of demand* itself we find wide differences in marginal productivities. Generally the supply remains very limited in occupations requiring long and costly training such as those of actuaries and highly qualified doctors and engineers, and the small supply itself keeps marginal productivity in terms of demand prices very high. Where the cost is the lowest and the supply largest as in the case of unskilled workers, the marginal productivity is bound to be low. Thus all wage differences are as a rule explainable in terms of differences in conditions of demand and supply.

A recent factor that explains wage differences may also be noted. It is the bargaining strength of a group. Those groups which

are well-organized and whose services are important for the life of the community, such as Railway and Postal workers, have greater chances of raising their wages through strikes, actual or threatened, than clerks and teachers, who are less organised into unions and without whose services the community can carry on its life easily for sometime at any rate

Some Special Cases of Low Wages

Women usually get lower wages This is due to several reasons (1) They are physically weak and therefore most probably less efficient (2) Most working women are generally unmarried and have no family to support. Incomes of married women are supplemented by earnings of husbands or other members of the family. In either case their needs are smaller, which makes them willing to work at lower wages (3) Most of them take to work temporarily usually until marriage. This makes them somewhat indifferent towards qualifying fully for their jobs and also towards forming or joining trade unions, thus they remain less useful to employers and work as bargainers (4) The number of occupations they can enter is usually limited, and the number of women seeking employment is large enough relatively to the jobs open to them to depress their wages (5) Women are also less mobile than men even when they are unmarried. They tend to stick to an occupation or place which is convenient even though it offers low wages

Low wages of sweepers are usually pointed out as disproving the contention that disagreeableness of an occupation raises wages. But so far as any rate in India is concerned a large group of persons belonging to the sweeper caste do not yet feel strongly the disagreeableness of their occupation. Their number in relation to the demand is big enough to keep their marginal productivity in terms of money low, the cost of their maintenance or the standard of living is itself low. This explains their low wages. Propaganda by certain people is now making them dislike their work and demand higher wages. In so far as people of other castes will not enter the profession the wages of sweepers are likely to rise very high in the future, unless demand itself is reduced by modern systems of disposing of refuse

Wages in practical life

The theory of wages, like other economic theories, gives us only a rough idea of the forces that determine wages. All theories

are based on certain assumptions like perfect knowledge of facts of the market, free competition and ready mobility of the agents of production. To the extent these assumptions are not valid in actual life, theories do not give us the true picture. They are not photographs but only paintings, yet they are of real value in understanding the working of economic life. With this background we may now examine some of the significant forces that cause wages to diverge from the theoretically determined levels.

1 Ignorance The most important of these is ignorance of both employers and employees about what the level of marginal productivity in real or money terms is for any grade of labour. Mathematically accurate calculations are not possible because definitely accurate data about the costs of other factors land, capital and organisation—are not available. It is only by experience extending over a number of years about the net earnings of a concern that the employer can make an estimate of marginal productivity of labour and that very roughly. The result is that wages prevailing in an industry may remain for years higher or lower than marginal productivity.

2, Hindrances to Mobility and Competition Even such knowledge as is possessed by workers and capitalists cannot be utilized to the fullest extent because neither labour nor capital can afford to move immediately from the less to more paying occupations or localities, or to stop working as soon as their remunerations fall below their theoretically determined contributions to the total output. Labourers have no reserve to fall back upon and accept lower wages rather than starve. Capitalists put up not only with reduced but negative rewards in the hope of better times returning with lapse of time. The same cause explains difference in wage rates obtained by similar workers in different establishments or places.

3 Inequality of Bargaining Power Labourers, unless they are organized into strong trade unions, are weaker as bargainers than their employers, the result is that wages tend to be lower than marginal productivity. Where trade unionism is strong workers are able at times to push up wage rates above marginal productivity. But this can only be for temporary periods, no employer can put up for long with

continued losses. More permanent pushing up of wages is, of course, possible by the adoption of a 'closed shop' policy by a labour union. Restriction on numbers admitted to an occupation pushes up prices of products and marginal productivity and wages of labour, but at the expense of members of open unions as we shall see later.

4 Industrial Booms and Depressions During periods of rising prices marginal productivity of labour in terms of money, at any rate, rises. Wages do rise with pressure exerted by labour unions but with time lag and perhaps never proportionately. The result is fall in real wages below productivity and exceptionally high earnings accruing to employers. Opposite happens as prices begin to fall and depression in trade sets in. Wage cuts are resisted by unions, in any case reduction in wages in such periods is seldom proportionate to the fall in prices and marginal productivity of labour in terms of money. Real wages thus tend to be higher and returns on capital and enterprise lower than their respective productivities at the margin.

5 State Interference In addition to the interference by employers' and workers' unions in the ready adjustment of wages to changes in prices of output the state is exercising increasing control over wage rates usually in favour of the workers. Apart from laws governing factory conditions and compensation against accidents governments now go so far as to fix rates of wages and bonus payable to workers. And as such rates favour the workers, wages are likely to be pushed up above marginal productivity as is the case during periods of depression. The result is artificial depression in profits, followed by fall in production and increase in unemployment under the system of private enterprise.

Limits to Wage Fluctuations

We have seen something of the forces that make wages diverge from marginal productivity. However the effect of these forces is temporary, over longer periods the factors of production other than labour as well as labour must have normal reward—no more and no less. More than normal rewards, except in the case of land, will increase supplies of the factors of production and bring rewards down to the normal level. Rewards lower than normal will reduce supplies and push them up to the normal level. It is only *temporarily* that wages can

Unwillingly he may, however, be compelled by workers organized into strong trade unions to pay *more than marginal productivity* in certain cases. But then the limit to which wages can rise is the extent of the loss of *income and capital* which an employer is willing to suffer rather than close down the business. In periods of depression a considerable number of enterprises have been observed to run continually at zero or even negative profits in the hope of better times returning. Whenever fixed costs are large, it is better to run the factory at some loss over current output unless future prospects are gloomy and final close down is decided upon. But such an abnormal wage rate cannot but be temporary. If, however, rise in wages forced upon an employer enables him to raise the price of the product and maintain his own profits, we have a case where the workers have really raised their marginal productivity itself along with wages. Such rise can be enduring. Similar is the case where the rise in wages leads to an increase in the efficiency of either the workers or that of the management.

CHAPTER XV

THE PROBLEMS OF LABOUR

Peculiarities of Labour as a Commodity

The theories explaining determination of wage rates treat labour as a commodity which is sold and purchased in the labour market at a price we call wage. This position may be accepted as something natural by the employer as purchaser of labour. But for the seller it results in some real injustice, which goes against the best interests of society itself. Supply of labour as a commodity has certain peculiarities which are of great economic and social significance, and which therefore need special notice.

(1) *Labour is inseparable from the labourer* and has to be *delivered in person*, unlike commodities which can be easily packed and sent to the place where they command the highest price, the producer or seller remaining where he is. This means that the seller of labour, i.e., the labourer, accepts not only the wage offered but also the conditions in which he has to live and work—very often so far away from his own home and family. Again, movement of labourers to the best market is more difficult and costly than that of goods.

(2) *Supply of labour*, denoting the whole population living on work, *remains more or less fixed over long periods*. It cannot increase or decrease with rise and fall in wages as is the case with the supplies of commodities with rises and falls in their prices. Consequence is that if wages are for any reason too low misery becomes prolonged.

(3) *The Supply of labour cannot be withheld for a better price*. A day's labour lost is lost for ever, it is the most perishable commodity in the world. The result is that it has very often to be thrown upon the market at whatever price it will fetch. The vast majority of the workers are too poor to have any reserve of savings on which they can live while waiting for higher wages. This makes their position as sellers much weaker than that of the employer, who is usually rich. Thus there arises the great likelihood of wages being fixed and remaining below marginal productivity of labour.

(4) *Human element is involved in the*

labour market We all want prices of goods to be as low as possible, but few of us will want wages to be low irrespective of the essential needs of the recipient. Even if wages are equal to marginal productivity we all want them to be higher if they are not enough to maintain the worker and his family at a certain standard of comfort. Apart from feelings of humanity, it is essential in the interests of society itself that workers' families should be well-fed and clothed, for without this they cannot be efficient now or in the future.

These peculiarities of labour lead chiefly to four evils—(1) low wages, (2) long hours, (3) bad conditions of work and living and (4) loss of total income and added misery resulting from old age, illness, industrial accidents and unemployment. Recognition of these evils has given rise to several movements directed towards the improvement of the condition of the working classes. Increasing impetus to these movements has been given by rapid progress of large scale business in all the important branches of production, including transport and marketing, and conversion of vast numbers of people from independent workers living in villages or small towns into mere wage earners crowded in small areas of big cities. As a matter of fact, all the programmes aiming at economic and social reform are nowadays centered round wages and the problems of labour. They have all affected, and been affected by, one another in a greater or less degree. The chief of them are (1) *Labour Welfare Schemes* undertaken mostly by employers themselves and supplemented by the state and the labour unions. (2) *Trade Unionism or combination movement among workers themselves*. (3) *Legislative and administrative measures* taken by the state, interfering in the wage contract between the employer and the employee. (4) *Cooperation among workers*, promoted largely by non-official agencies and actively supported by the state. (5) *Socialism and Communism*. Of these the last two—cooperation and socialism—have revolutionary aims, wanting to eliminate the employer altogether. Cooperation wants to make the workers themselves masters through their own voluntary efforts and in a peaceful manner. Its organisation and methods have been examined in Chapter XI. Socialism aims at nationalising capital and enterprise through the democratic method of the vote. Its extreme wing, Communism, also wants to socialise enterprise but more thoroughly and by violent methods, viz., through

opagating hatred amongst the workers against the capitalists as a class and capturing state machinery through military coups. These aims are much wider than mere improvement in wages and working conditions of labour. They want to bring about equality in incomes and wealth and have been touched upon in Chapter XXI. Here it is proposed to deal with the first three movements, which have the limited objective of reforming some of the conspicuous evils of the capitalist organisation of industry.

Evils of the Capitalistic System

All efforts in the direction of improving labourers' condition—whether official or non-official and reformatory or revolutionary in their scope—rest upon the recognised evils of the industrial system, which are out of what has been called the Industrial Revolution. These evils arise largely from the profit motive of the private entrepreneurs and their strong position as bargainers in the labour market. They are: (1) Low wages and unduly long hours of work, which the workers thrown out of domestic industries are forced to accept. (2) Bad working and living conditions, resulting from concentration and overcrowding of large numbers of workers in factories and tenements with low roofs, scarce ventilation and bad sanitation. (3) Employment of women and children, resulting in the deterioration of the health of the future sources of labour supply of the nation. (4) Misery caused by 'apart from low wages and bad conditions of working and living) loss of earnings during illness, old age, unemployment and through industrial accidents. (5) Concentration not only of capital but of the power of initiation and direction of business in the hands of a few big employers, with the consequence that the workers are not only permanently bossed over but lose interest in their own work. This cannot but damp their enthusiasm, reduce efficiency and damage social interest along with their own. (6) Emergence of disputes between employers and employees about wages and working conditions, leading to strikes and lockouts. The resulting cessation of work injures the interests of society as well as of the capitalists and workers. The three types of efforts devoted to the removal of these evils and examined in this chapter are (1) Labour Welfare, (2) Trade Unionism and (3) Labour Legislation.

Labour Welfare

The term labour welfare used in a wide sense includes all

kinds of activities undertaken by the state, employers or any other agency for the betterment of the condition of the wage-earning classes. In a restricted sense, however, it denotes amenities provided to his workers by the employer himself over and above those prescribed by labour laws. Official and non official agencies also supplement these activities to some extent, as we shall see. These amenities may include free or assisted provision of better housing, medical aid, education, entertainment and recreation. Some of the enlightened employers like Henry Ford may go further and on their own initiative raise wages, reduce hours of work and introduce schemes of bonus payments and profit-sharing. Such welfare activities of the employers may be based on humanitarian grounds only, philanthropically minded employers go far towards accepting reduced incomes for themselves in order to raise those of their employees. Robert Owen was such an employer, who started active promotion of employees welfare early in the nineteenth century. He has admittedly been the originator of labour welfare and cooperative movements. It is such employers that have pointed the way to and promoted legislation by the state in favour of labour. Usually, however, welfare schemes undertaken by the employers are dictated partly at least by what is called enlightened self-interest. Well paid, well-housed and well cared for labour becomes more efficient and yields good returns on the employers investment in these activities. Increased efficiency raises marginal productivity and provides economic as well as moral justification for the initial rise in wages and free grant of other amenities. Labour welfare may in fact increase the profits of the employer and lower prices of the product to the consumer. The dictum, 'low paid labour is dear labour', has a large element of truth in it.

Recognising this the state has begun to compel by law narrowly selfish employers to provide certain minimum amenities to their employees. The Government of the United Provinces has recently started a training class for labour welfare officers, and intends to ask each factory owner to employ one of these qualified hands for initiating and supervising measures of labour welfare in his factory. The bigger Indian concerns like the Tata Iron and Steel Co. and the British India Corporation generally spend large sums over providing to their employees amenities much beyond those made compulsory.

by legal enactments. These efforts of the employers are supported by the central, provincial and local governments. For example, the U P Government has established during the last few years Labour Welfare Centres in the bigger industrial towns of the Province. Their chief activities are provision of free medical aid in case of illness and confinement, adult education and training in and entertainment by music of factory labour. Some of the political parties also supplement these welfare activities of the state and the employers, but unfortunately most of these are restricted to propaganda against employers or the government party in power and represent little more than purely selfish efforts at catching the votes of the growing industrial population.

The most important of these welfare activities is centered round housing of labour. Usually the labourers are crowded in small, ill-ventilated and most insanitary *bustis* found in each industrial town. Provision of better and more spacious quarters proves usually uneconomical, as the workers' wages are seldom enough to afford monthly rents that will cover interest and depreciation on investment in buildings. Employers who do provide quarters have perforce to charge less than economic rents and the resulting deficit constitutes one of the costs of production. Few employers are able to afford to incur these extra charges in the competitive market. Financial assistance by the Provincial government or local bodies looks to be essential in this matter. It may be extended to the employers or to private builders in the shape of grant of free sites and loans at low rates of interest or direct money grants. Another alternative would be to compel each employer by law to provide standard type of quarters per working family at a reasonably low rent. The deficiency on the annual return on investment will then fall on all the employers, who will be able to pass it on to the consumers in the shape of higher price of the product, as is the case with other necessary costs, including those imposed by observance of existing factory laws.

Trade Unionism

Trade Unionism represents organisation among workers for the amelioration of their lot by their own combined efforts. It originated along with the factory system in England in the early nineteenth century and has now spread throughout the industrial nations. It,

As other labour movements, rests primarily on the decidedly weak position of the workers as bargainers in the contract of employment. In any establishment they as sellers of labour are many and poor while the employer as purchaser of labour is one and rich. When organised into a union the employees bargain collectively, this strengthens their position.

Organisation Unions may be craft or *trade unions*, which denote organisations of particular types of skilled labourers such as locomotive drivers of a railway company or locality. These local organisations may then form countrywide federations. *Industrial Unions* represent wider combinations, including all kinds of workers engaged in an industry such as Indian Railwaymen's Federation or Indian Postal and Telegraph Workers' Union. There may of course be local industrial unions composed of workers belonging to one company or locality such as the employees of a single cotton mill or of all the cotton mills in a locality, e.g. Cawnpore and Ahmedabad Labour organisations. These unions may be *open*, welcoming any one who cares to join, or they may be *closed unions*, restricting admission by imposing stringent conditions for admission such as long terms of apprenticeship and high admission fees. Such closed unions are generally formed by skilled workers and they sometimes adopt 'closed shop' policy, that is, they do not allow non union men to be employed. The result is monopoly of supply of labour of the type concerned and wages are then raised too high at the cost of other classes of workers who are unorganised or who are members of open unions. *Federations* are usually formed by the various local trade and industrial unions on a national scale, representing particular types of workers of a whole country. A *Trade Union Congress*, such as the All India Trade Union Congress, represents unions of all or most of the national federations and may embrace the workers of all the industries in the country including those run by the state. These supercombinations naturally add further strength to the workers movement.

Functions Local and federal unions promote the interests of their members in the following important ways —

(a) **Collective bargaining** The organised members bargain with the employer or employers collectively through their representatives

in regard to wages, bonus, hours of work and conditions of work and living. The demands considered to be minimum are enforced through the *weapon of strike*. Funds are usually collected by subscriptions from members and donations from sympathisers for supporting the members during the period a strike continues. Such strikes are now used not only to raise wages but also to improve other conditions of the labour contract. It is now becoming usual for the unions to demand a share not only in profits but also in management through formation of works committees, representing employers and employees. This function of the unions is the *fighting function*. It easily enables the workers to obtain real wages equal to their marginal productivity where they happen to be lower than this. Temporarily they can be raised above marginal productivity as we shall see presently.

(b) **Welfare Activities.** Another function of the unions is to help the members by providing education and technical training, recreation and maternity, sickness and unemployment benefits to the extent these are not available from the side of the employers and the state. Such benefits may be financed from subscriptions or provided on a cooperative basis i.e. by forming cooperative societies for different purposes. These activities may also include propaganda for the raising of cultural and living standards of the members and usually lead to increases in efficiency and economically justified rise in wages.

(c) **Political function.** Most unions now try to go further and either set up their own candidates for election to legislatures or support candidates of parties sympathetic to labour. The aim is generally to promote through such members of parliaments legislation in favour of the workers. Naturally legislation compels the employers to provide wages and other conditions prescribed by law and relieves the unions from constant agitation. As the political strength of the unions grows they may of course demand revolutionary changes in the industrial set up such as socialisation of industries.

Trade Unions and Wages. The main function of the trade unions is the raising of real wages, in which we must include all concessions which help to improve the standard of living of the workers, such as free housing, medical aid, recreation and even

increased leisure resulting from shortened hours of work. By the strength developed through combination and collective bargaining the Unions can raise wages permanently under certain conditions (1) They can bring up the wages *to the level of marginal productivity* where they stand below such level either due to the superior bargaining strength of the employer or to the ignorance of the workers. Any increase in wages beyond this can only be temporary as it will be at the cost of the employer's normal profit, any substantial reduction in which is bound to compel him to close the business, or at least to reduce the labour force until marginal productivity increases to the new higher level of wages. (2) Wages can also be raised to the extent that *unions can raise efficiency* and therefore the marginal productivity of the members through their friendly activities. Here it may be noted that an initial rise in wages above marginal productivity may be made permanent if such rise raises the standard of consumption and increases proportionately the worker's efficiency simultaneously or fairly soon after the rise in wages. This is very likely to be the case where wages are extremely low and keep down the consumption of necessities much below the efficiency level. (3) A third case is one where wages are raised through adoption of the '*closed shop policy*' by a union. The strict limitation of membership coupled with preventing the employers under threat of strike from engaging non-union men, helps to raise wages to the extent that output is kept down and its price kept up. Here it is a case of worker's monopoly in the field of production the benefit of which accrues to the workers instead of the capitalist. In a very real sense the marginal productivity of labour rises in such a case through restriction of numbers of workers and the output itself. Such an abnormally high wage is however, obtained not at the cost of the employer's profit (which is maintained through higher price of the product) but at the cost of (a) the consumers, who have to pay higher prices and (b) non-union workers, who have to work in industries where marginal productivity and wages are much lower.

Temporarily wages can of course be raised above marginal productivity even by open unions. But in so far as output is maintained prices cannot be raised and the burden of higher wages falls on the employer's profits. Reduction in these latter inevitably leads to the

lowering of wages or retrenchment and unemployment. Such a rise in wages is thus against the interests of the workers themselves. It should also act as a warning to labour leaders, who demand, and the legislators who pass, minimum wage laws fixing wage rates at an uneconomically high level.

Organisation of workers into unions is advantageous not only to the workers but to society as a whole in so far as it helps to remedy some of the evident evils of the modern capitalistic system of industry. (a) To the extent that unions are able to raise wages according to marginal productivity they enable the workers to get what is due to them and to prevent unjustified inequality in the distribution of wealth and incomes. (b) They also help raise the standard of living and efficiency of their members by their fighting and friendly functions, and the rest of the community gets the advantage in the shape of increased output and perhaps lower price. (c) They indirectly increase efficiency of management in so far as inefficient employers, in having to raise wages, are either compelled to improve their own organization or to make room for others who are able to reduce costs and pay the increased wages.

Merits and Drawbacks of Trade Unionism

But Labour Unions, like all class organisations, are apt to promote their own narrow sectional interests at the cost of other sections and the general interest of the community as a whole. These evils become exaggerated to the extent that the workers are seldom enlightened enough to understand their highest interests and are usually liable to be exploited by politicians for their own ends. Thus perhaps the basic and the most serious evil of unionism arises from (1) **leadership** provided by persons outside the ranks of labour. Such persons are as a rule ambitious politicians, who excite discontent among the workers just to gain their votes. It is not uncommon for such leaders to foment strikes without sufficient cause. Not being employees themselves they lose little, while the strikers and their families may actually starve and gain nothing if the strike proves unsuccessful. (2) Secondly, the whole life of the community is often paralyzed by strikes, particularly those in concerns providing essential services such as those of railways, post and telegraphs, water supply, coal mining. The disturbance becomes more widespread when national federations

declare a *general strike* embracing all or many industries in sympathy with the grievances of the employes of a single industry or service. In such a case not only the employers but the whole community suffers through higher wages and rising prices of goods to the consumers in general apart from the loss in output and dislocation of economic and social life during the period the strike continues. These strikes in basic industries, such as mining, power supply and transport have of course wider repercussions in so far as they lead automatically to cessation of work in many other industries depending upon the former for power or materials. (3) Another evil is the liability of some unions adopting *closed shop policy* and injuring the interests not only of consumers but of the vast numbers of their own poorer brethren who happen to be outside the closed union. (4) Unions often oppose introduction of improved machinery and methods of production, such as rationalisation, to prevent retrenchment in their ranks. They may also at times adopt policies of slowing down of the speed of work in order to maintain employment of their members, being powerful enough to keep wages up. All this is against industrial efficiency and general social interest. (5) The unions invariably try to compel employers to fix *standard rates of wages* for different types of workers without regard to differences in efficiency of individual members of a group. The result is that efficiency is discouraged and indolence encouraged. This cannot but lead to loss of output and ultimate reduction in wages and the standard of living of the workers of the industry concerned in particular and of the rest of the community in general. For if the unions in each industry insist upon uniformity in wages, as they always do, output is likely to suffer in all industries with resulting loss of the national dividend as a whole. (6) Lastly the unions are apt to promote *class hatred*, which often leads to violence and sabotage in factories. This is of course suicidal in so far as reduction in capital equipment cannot but lower wages and raise cost of living.

Trade Unions and the State Recognizing the advantages of trade unionism and the fundamental right of the workers as of the other people to combine and form associations to promote their legitimate interests, the state usually enacts legislation, permitting the workers to form unions and compelling the employers to recognise such unions for purposes of bargaining with their employees regarding wages and other terms of the labour contract. Registered unions are

allowed to collect funds and then officers are made immune from civil and criminal liability in respect of spending such funds and doing other acts in furtherance of the objects of their unions. However, to keep the unfair and evil policies and practices of the unions in check the Trade Union Act in India, as similar laws in other countries, require such unions to be registered, prescribe certain conditions which a union must observe in order to retain its recognition by the state and the employers. For example, a union is required to define its objects, to spend the funds raised on such objects only, to submit a copy of its audited accounts every year and not to have in its executive committee more than a fixed percentage of outsiders. Thus a registered union cannot promote or spend its funds on any extraneous purpose such as a general strike.

Regulation of Trade Disputes Closely related to legal recognition of and control over trade union activities is legislative regulation of disputes between employers and employees. Such disputes usually result in strikes by the employees or lock-outs by the employers. Both cause cessation of production, loss of output and injury to social interest as well as that of the parties to the dispute. Naturally the state intervenes to promote *industrial peace* by settling such disputes and preventing their injurious effects. Well recognised methods of settling disputes are mediation, inquiry, conciliation and arbitration. Mediation is usually undertaken by non official agencies, i.e. person or persons enjoying the confidence of both the parties. Failing this the state may interfere through legal power possessed by it. Thus the Indian Trade Disputes Law, as amended and extended recently, is administered by the Provincial Governments in their respective jurisdictions. It declares as illegal (a) all *sympathetic strikes* (which means general strikes or strikes by one or more unions to redress the grievances or enforce the demands of other unions) and, (b) strikes whose object is designed or calculated to inflict severe, general and prolonged hardship upon the community. Raising and spending of funds for such strikes is also illegal. This covers the case of services considered essential for the life of the community such as railways and water supply.

However, not to deprive any class of workers of their right to seek redress of their grievances altogether, strike is usually

allowed after the lapse of a reasonable period of notice, within which machinery of settlement can be set in motion for the settlement of a dispute. Because of the extraordinary situation arising during and since the last war this machinery has been made in India and other countries more perfect. Strikes and lockouts have in many cases been made illegal until the failure of such peace machinery, in some cases provision has been made for compulsory arbitration. The mildest form of legal intervention is the institution of a court of inquiry by the government. The findings of such an impartial court as regards the justification or otherwise of the claims of the contestants is itself expected to bring the unreasonable party to a better frame of mind and to act according to these findings. Failing this, a conciliation board may be appointed to go further and persuade the parties to compromise the dispute. Lastly come the compulsory arbitration boards appointed by the state. These agencies of *industrial peace* may be ad hoc, i.e. appointed specially to deal with particular situations, or they may be permanent if disputes are many and occur often and regularly. The awards of compulsory arbitration boards are then binding on both the parties and prevent both strikes and lockouts. The effectiveness of such machinery is, however, conditioned by the economic situation in an industry as regards prices, wages and profits. To the extent that an award puts wages above or below the level requisite to the price-wage-profit structure, enforcement becomes difficult if not impossible. Thus the recent award of such a board in the United Provinces has led a number of cotton mill owners to declare their inability to continue production at the existing level of prices of cloth, and the government has been compelled to modify the award in consultation with the representatives of employers and employees.

Another method adopted to avoid industrial conflicts and their evil consequences is the setting up of joint works councils, representing both employers and workers. Each industrial unit may have its own works committee and all such committees may have a central council representing the whole of an industry. They may be established *voluntarily* by agreement between the employers and the employees, or their formation may be enforced by law. Their main function is to settle jointly the conditions of work, their scope may be extended to include drawing up of plans of industrial *tasks* and their

enforcement This will give some share in management to the workers and reduce causes of friction

Labour Legislation

Types of Labour Laws Apart from laws governing trade unions and industrial disputes, already examined, there exists in each industrial nation a large body of legal enactments regulating conditions of work, wages and general employer-employee relations. Such laws may be conveniently divided into three main categories : (1) Those governing conditions of work and employment These include a number of separate Acts applicable to particular industries such as factories, mines, plantations and transport services (2) Laws regulating rates of wages and bonus and allotting to the workers some share in management (3) Social Insurance legislation, enforcing compulsory provision against old age, accident, illness and unemployment, and (4) Laws regulating trade unions and industrial disputes The last of these have been dealt with in the previous section Broad principles governing the other three may now be examined

Basic principles. All labour legislation is based on a few well-recognized principles (1) It springs (a) partly from considerations of humanity and seeks to secure to the workers as human beings what is called a **living wage**, i.e., wages and conditions of work considered to be necessary for **living** and not merely **existence**, (b) partly from the recognition of the weakness of the workers as bargainers and the need to protect them against the strong, and (c) largely to promote the general social interest, which is apt to be ignored by the narrow sectional outlook of both the employers and the employees The state, as custodian of such general social interest, attempts as far as possible to secure through labour legislation productive efficiency, distributive justice and industrial peace with due regard to the future as well as immediate interests of the nation (2) It enforces by legal compulsion certain minimum terms in regard to conditions of work and wages on all employers, so as to secure uniformity in these as far as possible, and in any case, to prevent any employer from being able to evade these minimum provisions In a sense labour laws prescribe the **rules of the game** and seek to prevent the strong from **'hitting below**

the belt'. (3) All legislation, in so far as it favours the workers, raises the costs of production of goods and services. The burden of these additional costs, resulting from the enforcement of labour laws, may be thrown (a) wholly on the consumers if the employers are able to pass it on to them through proportionate rise in prices of the products. It is necessary to note here that the rise in the price of the products due to such additional costs of legally compulsory concessions may handicap the home made goods against similar foreign goods, and may call for protective measures. Employers are sometimes compelled to raise this question when any new labour laws are introduced by the state. (b) It may be borne partly or wholly by the employers through a reduction in their own profits. This will depend upon the intention and form of the law, and upon the extent to which profits are large enough to bear the extra burden. If such a margin does not exist in the profits extra costs will lead either to closing down of business or to evasion and shifting of the burden to consumers. This fact has always to be borne in mind by the legislators. (c) The whole of the burden of certain legal measures and a part of the others may be taken over by the state upon itself, in which case it falls ultimately on the tax payers instead of on the consumers. Thus the state bears the whole of the cost of enforcement of labour laws in the shape of salaries and other expenses of the staffs and offices of its department of labour, it also bears a large part of the expenditure on general and technical education of the workers, and may contribute part of the expenditure on social insurance schemes. As we shall see presently, the greater part of these latter burdens is as a rule thrown by law on the employers and the employees. (4) Most of the labour laws favouring the workers have been inspired by the pressure exerted by (a) humane employers and philanthropists or social reformers, (b) trade union and socialist agitation, and (c) lastly by the International Labour Office, established at the end of World War I as an auxiliary and yet independent adjunct of the League of Nations. Another factor has been the progress in the scientific studies of the effects of hours and conditions of work on the health and efficiency of the industrial workers.

²⁰This organisation is still continuing although the League itself has been replaced by an entirely new organisation called the United Nations Organisation.

Factory Laws. The Factory Acts, in India as in other countries, usually contain provisions applicable to factories using mechanical power and/or employing more than a minimum number of workers. Modifications are made to suit the conditions prevailing in different industries. For example, longer hours of work are allowed in seasonal industries, such as sugar manufactories, than in perennial factories like cotton and jute mills. As conditions are widely different in mines and tea or coffee plantations, separate Acts governing such industries usually exist. However, they all contain provisions regarding the following matters —

(a) Restrictions on the employment of women and children

These rest on the protection of the health, efficiency and morals. Employment of children below a certain age not only injures their health permanently but also prevents them from getting general education. Their employment is thus prohibited until they attain the prescribed age, say, 15 years, until then their compulsory schooling is prescribed in England and is likely to be enforced in India. Employment of women underground, that is, in mines is usually prohibited altogether as this is likely to lead to sex immorality. Under the exigencies of the war needs for coal and shortage of labour in mines this provision was relaxed in India during the last war against strong opposition from the public. In factories shorter hours of work were as a rule prescribed for women and children than for adults because of the former's weaker health and need for more leisure.

(b) Hours of work and length of shifts Maximum hours of work per week and also in any single day are prescribed in order to prevent the strain from over-work and loss of efficiency and to provide enough leisure considered necessary for recreation and cultural development. Rest pauses after every four or five hours of continuous work and weekly holiday are provided in order to give time for meals and to ease the strain on body and mind. This is based on scientific studies of *fatigue*, and attempt is made to regulate hours of work so as to promote health and efficiency without undue loss of output. The tendency has been towards reduction in hours until 48 hours week of six working days, or 8 hour day, is now considered as the standard which most countries attempt to enforce in all

factories except the seasonal ones, such as sugar, where all the available supplies of the yearly crop of sugarcane have to be crushed within the space of about three months. Shortening of working hours does not necessarily reduce output, it may in fact increase this by increasing efficiency of the workers.

(c) **Sanitary arrangements** Each factory is required to provide proper ventilation, periodical white washing, adequate water supply and necessary conservancy arrangements in order to protect the workers health.

(d) **Safely devices** Apart from control over the use of boilers in factories Factory Acts make fencing of dangerous machinery compulsory and prescribe precautionary measures in mines and other occupations so as to prevent accidents and occupational diseases such as lead poisoning. These provisions of the law are in process of extension to smaller and smaller factories and workshops such as bidi-manufacture and leather tanning in the Central Provinces. Maximum hours of work and minimum compulsory weekly and other holidays have recently been fixed for shop assistants in the U P and other Provinces of India by special acts. All factory laws are of course enforced through periodical inspection of factories by qualified inspectors appointed by the state.

Wages Legislation Laws connected with wages are usually of two types. (1) *Those dealing with methods of payment of and deductions from wages*. Thus the Truck Acts in Great Britain and other countries prohibit employers from paying wages in kind to prevent them from supplying bad quality of goods needed by workers and at higher than market prices. Such a practice if allowed, will necessarily mean secret cut in real wages apart from curtailing the employees freedom of choice as consumers. In India there is the Payment of Wages Act of 1936 which applies to certain factories. According to it wages including bonus if any, must be paid within a week of them falling due. Deductions on account of fine or absence from duty are permitted only under specified conditions and all proceeds of fines are required to be spent for the benefit of the workers.

(2) *Those fixing minimum wages*. While the first type of laws are easy to enforce, fixing of minimum wages involves compli-

cated problems of economic theory and is beset with many practical difficulties. To the extent that its aim is limited to prevent the employers from paying less than marginal productivity of labour, no serious disturbance results. In fact, it is now recognised as something necessary in what are called 'sweated trades', in which workers are unorganised and cannot bargain collectively. Wages in such trades, lace and toy making by women in their own houses for example, stand at a very low level and represent positive exploitation by capitalists, who distribute raw materials and collect finished goods daily or weekly against wages paid by the piece or amount of output. The incidence of higher minimum wages, fixed by law in such cases, falls on the exceptionally high profits of the capitalists, who are able to bear it, no unemployment can therefore result.

The case is, however, different where a *national minimum wage* is fixed applicable to all employments in a country. The purpose of fixing a national minimum is not so much to prevent exploitation of unorganised or sweated workers but to secure the higher objective of providing 'living wage' considered essential for raising the standard of living of the lowest grade of the labouring population to a higher level. Laudable as the object of such legislation is, it is not possible to fix wages at a level higher than marginal productivity without causing unemployment and other serious disturbances to economic life of a country where the system of private enterprise prevails. Even in a communistic economy the national minimum cannot be higher than what the net productiveness or the national dividend of a country warrants. Another difficulty is the differences in marginal productivities not only of similar workers employed in different industries but of different groups of those engaged in the same industry. Then comes the problem of recurrent fluctuations in prices and costs, changes in which call for consequential alterations in wages. Even if it is possible to arrive at a *fair level* of wages for a particular grade of employees in an industry at a particular time, it becomes uneconomic immediately anything occurs to alter the prices of the product or its costs other than wages, such as prices of raw materials or transport charges.

Naturally the law fixing the national minimum wage or wage rates applicable to particular industries and groups of workers has

to be framed with great caution. Neither of the two can be fixed at an arbitrarily high level or *permanently*. The usual method adopted is to fix them at a relatively low level, a good working device is to adopt the rates, paid by the more generous employers to particular grades of workers in an industry or occupation, as the standard to be reached by all employers gradually over a given period of time. Provision is made for occasional revisions according to changes in circumstances, taking into account such factors as the capacity of industry to pay, the productivity of labour, the prevailing wage rates, the amenities provided to the worker, the national income and the general economic position of industry. Elasticity in rates is necessary to prevent unemployment and other disturbances to economic life. New Zealand and Australia have pioneered in such legislation. It has now spread to many other countries. The Government of India have also recently put on the statute book a Minimum Wages Act. It makes the Provincial Governments responsible for fixing minimum wage rates for various industries and occupations. A start has already been made and it is hoped that all the 'sweated trades' and most of the important occupations, including agriculture, will have minimum wage rates fixed for them by March 1951. Actual fixation and periodical alterations are generally in charge of local and regional wages boards or committees, representing the employers, employees and the state.

Social Insurance

Social insurance denotes compulsory provision enforced by law against certain ills to which workers are subject. Social insurance schemes originated in Germany about the end of the last century. They have by now spread to all the industrial nations of the world. The tendency has all along been towards an extension of their scope to larger and larger numbers of industrial employees until the British Social Security Scheme, based on the Beveridge Report of 1942, attempts to embrace the entire population under a single comprehensive scheme of social insurance. Apart from low wages and bad working and living conditions, which are sought to be solved by wages legislation and factory acts, the worker and his family are exposed to special misery resulting from four different causes, viz, old age, accident, sickness and unemployment. Being usually low paid and at the same

scheme will come into full operation in 1949, when the employers will have to pay in the *old age reserve* kept in the U S Treasury 6% of the wages paid to each employee with the right to deduct half of the contribution, that is, 3%, from the pay of such employee. Thus the cost will be shared equally between the employer and the employee, the state making no contribution from public funds. The idle part of the reserve will be kept invested, and the Treasury will be paying out of the current contributions and annual interest receipts from these investments annuities to each worker (on his attaining the age of 65 equal to a fixed percentage of the total wages received by him. In case of early death provision has been made to pay to the heirs a lump sum equal to three and a half percent of the wages received during life time less any benefits paid to him after attaining the age of 65.

Accident In all countries, including India, provision is made for payment of the whole of the compensation against accidents by the employers themselves. Loss of life and limb is considered to be a necessary concomitant of modern industrial life and society must bear the cost of compensation against such loss instead of the actual sufferer. The burden is thrown by law directly on the employer, who is, however, likely to shift it on to the consumers through a rise in the price of his goods so far as compensation forms an essential element of the costs of his production. Similar is of course the case with contributions made by the employers to schemes of insurance against old age, sickness and unemployment.

Legislation takes the shape of Workmen's Compensation Acts, which prescribe rates of compensation according to the nature of injury and the wages received by a worker. In case of death payment is made to the dependents so as to prevent misery resulting from the death of the earning member, in case of injury the worker himself receives compensation to enable him to subsist either wholly if the injury causes *total* disablement, or to supplement his earnings if disablement is only *partial*. Most employers insure their workers against accidents with special types of insurance concerns, called Employer's Liability Insurance Cos., which in return for fixed annual premiums undertake to pay the whole of the compensation as and when accidents occur. Such insurance is compulsory in Germany,

it is optional in great Britain and India where the employers may, if they like, make internal provision instead of insuring with an outside insurance company. In any case the payments really constitute a recurring charge like the annual wages bill. The Indian Workmen's Compensation Act of 1923 as amended upto 1938 prescribes the rates of compensation against death varying between Rs 200 to Rs 4000 according to wage rate of an employee, and between Rs 700 to Rs 5000 against permanent disablement. In case of permanent partial disablement and temporary disablement the rates of compensation vary according to the loss of earning capacity.

Sickness and Unemployment

All workers are exposed to illness and unemployment, and they are unable to make from their own earnings adequate provision against these contingencies as of course against old age or accidents. Sickness and unemployment resemble each other in certain respects and so do most of the schemes of insurance against them. The former is a disease of the body against which the state is supposed to provide both preventive and curative medical measures, viz, public health services and hospitals. Unemployment is a disease of the economic system. It is, however, a new disease which has appeared and grown acute due to recent developments in the industrial life of the world. Its causes are chiefly technological changes and seasonal and cyclical fluctuations in business activity, all of which are now of frequent occurrence. For these the individual workman is not in any way personally responsible, as he probably is for bodily illness in so far as it arises from his own excesses or irregularities in diet and habits of living. Consequently the state, representing the aim of organised society, must make itself responsible for preventing unemployment and for assisting the sufferers when it has occurred. It is on this basis that the state usually contributes a part of the cost of health and unemployment insurance schemes. Another part is thrown upon the employers and employees if only to provide inducement to them to do what they can in the way of prevention and cure of the two diseases. In England every employer is required by law to deduct from the weekly wages of his employees covered by the scheme a certain amount and to deposit it in the Post Office along with an equal contribution from himself. The state then adds its own one-third share to the fund, which is utilized in giving relief according to prescribed

scales to all the insured employees as and when they fall ill or become unemployed. One-third part of an employer's contribution is returned at the end of the year in case his employees remain free from unemployment. This is evidently done with a view to induce him to keep his workers employed as far as he can. During the period of illness the employer is required, it may be noted, to pay weekly allowances to the sufferers at a certain rate to prevent starvation of the family apart from the cost of medical treatment met out of the insurance fund. Maternity and funeral benefits are also provided from the same fund. In most of the continental countries of Europe there prevails the *Ghent System*, which is worked by Trade Unions with state grants-in aid. It has grown out of the single handed attempts of the Unions to help their members in the initial stages. Administered by unions officials themselves it is advantageous to the extent that opportunities to simulate sickness and unemployment are reduced to the minimum. In England such simulation is sought to be prevented partly by keeping the scales of sickness and unemployment benefits low and partly by requiring each unemployed worker applying for benefit to register with the nearest Labour Exchange and to be ready to go to work as soon as any vacancy occurs and the Exchange authorities direct the applicant to take it up. Refusal to do so automatically stops the payment of unemployment benefit by the Exchange, which is in charge of the administration of the scheme.

The British Social Security Scheme As has been indicated previously the social insurance schemes in Great Britain and most other countries are now generally in the melting pot. They are in process of being consolidated and made more comprehensive so as to include not only industrial employees but all persons standing in need of assistance through any cause whatsoever. The idea has sprung from the Atlantic Charter, which proclaimed for man in 1940, while the World War II was on, *freedom from want* along with the other three freedoms, viz, freedom of conscience, freedom of association and freedom from fear. While the last three are largely political, the first is mainly economic. It was in accordance with this that Sir William Beveridge drew up in 1942 his famous Report, which outlined a scheme of social security for Great Britain. It has been embodied in a comprehensive plan, which covers the entire population and all kinds of ills to which man is exposed from birth

to death. Benefits are to be provided according to need to each person whenever there is an interruption in earnings or an exceptional increase in expenditure. These benefits include liberally fixed scales of payments (a) to women during and after confinement, (b) to families for the education of children, (c) to all persons during sickness and unemployment and after retirement and (d) of funeral expenses at death. The funds for these benefits will be raised from all the employers and employees at a fixed rate per week and the balance will be made up from state revenues. The scheme is very ambitious indeed, and although the cost is likely to be heavy its success is not impossible if benefits are proportioned to available receipts.

Social Insurance in India Social insurance is still in its infancy in India although industrialization started here some one hundred years ago. The only provisions that have existed until late are the Indian Workmen's Compensation Act and certain maternity benefits which employers are obliged to pay to their women employees during the period of confinement. Several causes have combined to keep social insurance legislation backward in this country such as migratory, unorganized and scattered character of the working population, difficulties of administration and paucity of public revenues. However, a definite scheme of sickness insurance was drafted by Prof B P Adarkar in 1943. It was to be applicable to relatively low paid workers employed in certain classes of factories only to begin with. The funds were to be raised from compulsory contributions to be made by the employers and employees, and benefits were to be extended in the shape of medical aid and cash benefits during illness of the insured employees only and not of the other members of his family.

Recently a more comprehensive scheme of insurance has been drawn up in India and a Social Insurance Corporation has been established under a special Act of India's Central Legislature for administering the collection and investment of compulsory contributions from employers and employees and payment of benefits according to prescribed scales. The provisions of the scheme will apply to selected categories of workers in the initial stages, but are intended to be extended gradually so as to bring all employees who

need assistance within its scope. It will cover not only sickness but also unemployment and maternity benefits and compensation against accidents for all the workers to whom it is made applicable from time to time. The function of the corporation itself is to take charge of and administer the fund according to the schemes of insurance established by the government. Costs of the schemes will no doubt be reduced in so far as one big concern will naturally mean considerable economy in administrative expenses.

Unemployment.

The term unemployment is used to denote absence of suitable work for workers or other persons who are both able and desirous to find work. Such unemployment has many drawbacks. (1) It reduces efficiency. Apart from generating direct indolence during the period of idleness the fear of unemployment itself "acts as a deterrent to the efficiency of workers inducing them to adopt job-saving or time wasting practices." (2) It not only causes distress among the families of those directly affected by it but reduces the output and national dividend, thereby injuring the interests of society in general. (3) And when extensive and prolonged it creates demoralisation and tends to lead to social and political upheavals. Thus *political stability and economic prosperity* of society demand both a reduction in its incidence and mitigation of distress and demoralisation through compulsory insurance.

Insurance against unemployment is however, the most difficult part of any scheme of social insurance because the incidence of unemployment in modern times is both heavy and not at all susceptible to statistical measurement. The yearly data regarding the number of persons reaching the age of retirement and pension, the number of births and deaths, the number of people falling ill and the duration of their illness, and the number and nature of accidents in any one industry and in all of them together, can be and are collected. They also show some statistical regularity and are fairly stable. It is therefore easy to calculate their incidence and to arrive at rates of premiums or contributions required to provide the necessary benefits. Unfortunately this is not possible in the case of unemployment, which always remains an incalculable factor. To understand the implications of,